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## This Week

It seems that racing is coming into its own again. Two new raceways are to open things up for new records and the interest that has centered on Indianapolis is spreading from coast to coast. Foreign drivers are again pepped up about American contests, races of every description from soap box derbies to 500-mile go's are blanketing the country. It is a big development and beginning on page 476 there is a composite survey of it all by Frank Tighe and W. F. Bradley.

## Big Gain Predicted

**Next Year's Motor Output to Run 10 to 15% Higher According to Conservative Estimates**

By Harold E. Gronseth

While individual motor companies are setting 1937 production goals 20 to 30 per cent higher than in 1936, such a gain for the industry as a whole is more than liberal, observers anticipate at this early stage. From 10 per cent to 15 per cent represents more nearly the overall increase expected by the realists for next year. Obviously, it is the objective of every company to improve its percentage of total business

being done, which accounts for the higher gains represented by individual goals. There is general agreement, however, that the industry's output in 1937 should cross the 5,000,000 mark to make the year rank second only to the boom year, 1929, when production reached a peak of 5,621,715 units.

With the exception of two or three companies just getting under way, the motor industry is swinging rapidly into a heavy manufacturing program on its 1937 models. Some plants are making better progress than they had expected and will have substantial output to report for the current month. October, however, seems certain to fall short of the corresponding month last year when a total of 280,316 cars and trucks were turned out, because of the slightly later start made this year, especially by two of the volume producers. As near as can be estimated at this time, October production should approximate 250,000 units.

Final figure on September production by the industry in the U. S. and Canada will be very close to 135,000 units of which Ford accounted for more than 50 per cent as the result of continuing 1936 model manufacture until close to the end of the month. More than half of the balance of last month's output represented 1937 cars built by companies that got off to an early start. The total for September, which marked the low point in motor vehicle production this year, was 45 per cent higher than in September last year, which was also the low for 1935 due to the change-over to new models.

Third quarter production amounted roughly to 862,500 cars and trucks compared with 1,477,652 units in the preceding quarter and 863,100 in the third quarter of 1935. Each quarter this year has shown progressive gains over the corresponding periods of last year. The increase for the first quarter was 10.8 per cent; for the second, 23 per cent, and for the third, 26.3 per cent.

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## Ford Pushes Tire Making Plans

**Present Equipment May Be Utilized Since Makers of Tire Machinery Are Behind on Present Orders**

Detroit Correspondence

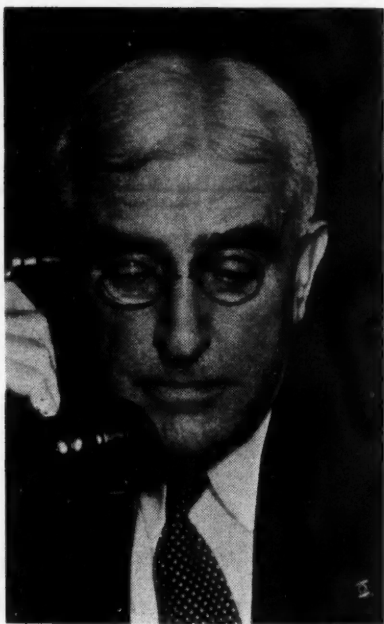
The Ford Motor Co.'s plans for its own tire plant to relieve the company of its present dependency upon tire manufacturers in the strife-torn Akron area, are reported to be going ahead steadily and to have been accelerated as a result of the latest Akron union labor demonstration which resulted in a three-day shutdown of the B. F. Goodrich Akron plants, affecting more than 10,000 workers. While the Ford company has received estimates from practically all tire mold and equipment makers on approximately \$10,000,000 worth of modern tire and tube building equipment, it is reliably understood that few, if any, of these equipment manufacturers can promise the Ford company delivery for many months, all being loaded up with orders of Akron tire manufacturers who are decentralizing and increasing their production facilities outside of Akron.

Until such time as Ford can get a full complement of machinery and equipment, it is understood the company will utilize its own equipment now in use in several departments of

the Ford factories, including calenders, tubing machines, vulcanizers, etc., used in the manufacture of parts such as steering wheels. For the time being at least, it is reported, the company will use its present forge shop for tire building purposes. This four-story building has floor space of between 160,000 and 200,000 sq. ft.

Expert tire designers are understood to be at work on designs for the new Ford tire which will eventually become universal standard equipment on all Ford cars, replacing Firestone, Goodyear, Goodrich and U. S. tires now used. The report that several technical experts and tire design experts from the Firestone Tire & Rubber Co. were working on the new Ford tire plants, has given rise to much speculation in automotive circles, as to whether the Ford tire building move is purely a Ford move or possibly a veiled aspect of a Firestone decentralization program. It is recalled that while other major Akron tire manufacturers have openly announced decentralization programs and have acquired production facilities outside of Akron,

(Turn to page 472, please)



"A hundred million dollar industry has been born in America," says A. A. Anderson, president of the Hayes Body Corp., Grand Rapids, Mich., referring to the rapidly growing tourist trailer business.

## 60,000 Claimed for Motor Union

*Lewis Announces Gains in CIO Membership Drive;  
Denies Peace Talks Begun with AFL*

By L. W. Moffett

Organization of 60,000 employees in the automotive industries by the Committee for Industrial Organization was claimed by John L. Lewis, head of the committee, at a press conference in Washington last Tuesday. He further said that the CIO had increased union membership in the rubber industry from 4000 last January to 28,000 in September. Lewis said he had no figures as to the number of workers the committee had organized in the steel industry. He denied that the CIO had entered upon peace negotiations with the American Federation of Labor.

The fact that he presented figures on unionization in the automotive and rubber industries and omitted them with respect to organization in the steel industry was taken to indicate that little progress had been made by the CIO in its steel drive. Lewis said, however, that the committee has ample funds to continue the steel drive. He

said that it has 175 organizers, aside from local organizers, at work in the steel industry. He did not indicate the classes of workers which he said had been organized in the automotive and rubber industries, but apparently was gratified at the headway made in these industries.

In denying that peace negotiations between the American Federation of Labor and the CIO were under way, Lewis said that if such a move is to be made it is "up to" President Green of the Federation to initiate it. He said that all that is necessary to bring about peace is for the executive council of the Federation to rescind its order ousting the CIO and its affiliated unions and to state what unions of the Federation may proceed with the campaign to organize industries industrially. Lewis' denial of peace negotiations came after statements by David Dubinsky, president of the International Ladies' Garment Workers' Union, intimating that peace negotiations had been started. This announcement was made at the New York convention of the cap and millinery department of the United Hatters, Cap and Millinery Workers' Union. President Green had expressed gratification at the move. It is believed that Dubinsky was sending up a "trial balloon."

Lewis said Dubinsky's statement incorporated terms which he knew Green would not accept. Dubinsky said he might consider an agreement which would insure organization of the steel and other mass industries on an industrial basis. While Green indicated his pleasure at this move it is believed that, as Lewis said, the terms set forth by Dubinsky are too broad for acceptance by the A. F. of L. Nevertheless, conferences are expected to be held informally in an effort to see if peace might be patched up. The fact that Green was a luncheon guest of President Roosevelt at Hyde Park this week gave rise to reports that the President is striving to have peace restored.

## Walsh-Healy Board Named

*Temporary Group of Three to Begin Administering  
Government Contracts Act*

Headed by Frank Healy of the office of the solicitor of the Department of Labor, Secretary of Labor Francis Perkins has named a temporary board of three members to administer the Walsh-Healy government contracts act. The other two members are Hugh L. Kerwin, director of conciliation, and Telfair Knight, counsel for the Textile Labor Relations division of the department. They will serve pending a special appropriation by Congress. At present the board has no funds of its own. Healy was formerly head of the government contracts division of the N.R.A.

The board will hold hearings to make findings arising under the Walsh-Healy law which went into effect Sept. 28. It requires that manufacturers and dealers who make future contracts in excess of \$10,000 with the government shall comply with certain minimum wage, maximum hour and other labor conditions. It provides for enforcing "prevailing wages" where contracts are placed, an 8-hr. day, a maximum of 40 hours per week with payment of overtime in excess of 40 hours. It is probable such overtime will call for one and one-half times pay. The board is charged with the duty of passing upon requests for exceptions and exemptions, establishment of overtime rates, complaints in violation of the act, establishment of prevailing

minimum wages and appeals from the rulings of other agencies.

Secretary Perkins said the determination of minimum wages will be made by industries or industry groups and will be preceded by hearings at which representatives of labor and management will be invited to appear. The board in making such recommendations will also draw upon the panel of employer and employee consultants for technical advice. The Secretary is expected to name this panel within a few days.

Thus far no minimum wage hearings have been scheduled on the docket of the board. It was announced, however, that the clothing industry would probably be the first to be taken up. The department is now making a statistical survey of wages paid in the various branches of the clothing industry.

### David Graham Nimmo

David Graham Nimmo died Oct. 2 at Grace Hospital, Detroit, succumbing to injuries received Sept. 17 when he was run down by a speeding automobile. Mr. Nimmo was service promotional manager of the Dodge division of Chrysler Corp. Born in Scotland in 1896, Mr. Nimmo was a graduate of the University of Southern California. He had been in the motor car business since 1919 and joined the Chrysler organization in 1931.

### Sales Corporation Formed For Edwards Home-mobile

Articles of incorporation for the Edwards Home-mobile Corp. as the sales subsidiary of Edwards Iron Works, Inc., have been filed with the secretary of state at Indianapolis. The new corporation will have direction of the sales activities of the new Edwards Home-mobile.

### Hupp Meeting Postponed

The date of the general meeting of Hupp Motor Car Corp. stockholders which had been postponed to Oct. 7 was again changed this week to Nov. 7.

## GM Favors "Quality Dealers"

### Low Overhead Dealers to Be Eliminated as Uneconomic and Territorial Protection to Be Enforced

By Don Blanchard

Cross selling was characterized as the most demoralizing influence in the whole distribution by Alfred P. Sloan, Jr., president of General Motors Corp., in speeches he made before pre-announcement conventions of the field sales forces of the Chevrolet and Oldsmobile divisions. Declaring that low overhead dealers on the outskirts of large metropolitan areas had an uneconomic advantage over dealers located within these areas, he said that the corporation was coming to the viewpoint that something must be done to give the quality dealer some form of territorial protection. He also expressed the hope that General Motors executives would take the lead in finding the solution for this problem.

The importance which General Motors executives attach to this matter was also reflected in the speech made by R. H. Grant, vice-president, at the Olds meeting. One of the important points he stressed was that the territorial protection provided in the Olds contracts should be administered as it was intended to be enforced. In this connection, he urged the Olds zone managers to make decisions on infringement claims within two weeks. Incidentally, it might be mentioned here that at the Pontiac preview, a high sales executive indicated to AUTOMOTIVE INDUSTRIES that vigorous enforcement was planned for the territorial protection which the 1937 Pontiac contract will afford.

Discussing quality dealers at both meetings, Mr. Sloan said that they were just as important as quality products. "This means," he said, "that in all respects our relationship with our dealers must reflect the quality attitude. We must treat our dealers as we might wish to be treated ourselves. We must not fail to recognize that they are human beings, just as we are human beings. We must appreciate that in the aggregate the dealer organization has not only several hundreds of millions of dollars employed almost exclusively in partnership with us in the sale of General Motors products, but on an individual basis the investment is frequently practically all the individual has in the world, and that, in a way, increases our moral responsibility. And we should realize that we cannot have a quality dealer organization unless we give that organization an opportunity to carry on on a quality basis. There must be a chance for a reasonable profit. We must move forward intelligently and aggressively in establishing the fact that the General Motors franchise is a valuable franchise, not in good years only, but through the whole business cycle."

Continuing, Mr. Sloan said: "I am

gratified to believe that the old idea that the more dealers we can bring into any particular community, the more cars we can sell, is an exploded fallacy—I am quite convinced that the contrary is true."

Somewhat similar criticism was directed by Mr. Grant at the theory that more sales are the inevitable consequence of increasing the number of salesmen. Stating that there are twice as many retail salesmen as can make a living, he said that the next important step to be taken was to follow the quality dealer plan with a quality salesman program.

The 1937 Oldsmobiles were shown to the press and the entire field organization of the company at its national convention. Details of the new line will be announced at the time of the New York automobile show in November. As in the model year just ended, there are two separate lines of cars, a six and an eight, embodying many changes from their predecessors and differing materially in styling from each other. Both have longer wheelbases and greater overall length, with more interior room and increased luggage space.

New, larger engines develop more horsepower and through slower engine speeds and carburetion refinements offer greater economy of operation. New safety features have been added, principal of which are the new uni-

steel body by Fisher and more rigid frame. The cars are lower and provide easier access for passengers.

Oldsmobile in 1937 celebrates its 40th anniversary, the first Oldsmobile, a one-cylinder car, having been built in 1897. Production of 1936 cars reached a new high mark of over 200,000 which compares with only 25,000 cars during the bottom of the depression in 1932.

### Greyhound Places Biggest Coach Order with Yellow

An order for 505 super-highway coaches, said to be the largest single order ever placed for motor coach equipment, was received this week by General Motors Truck Co. from the Greyhound Lines and affiliated companies.

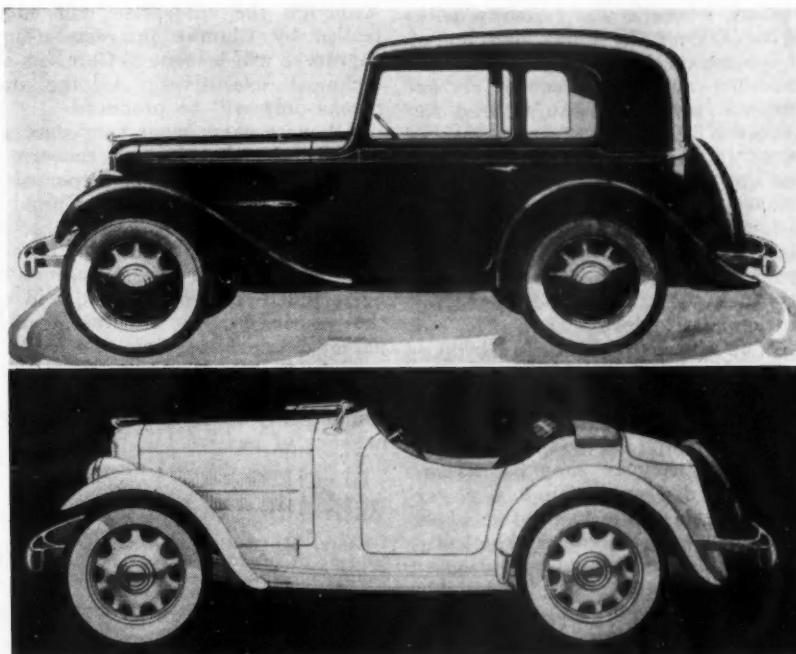
The order, in addition to being the largest in number of units, is also the largest in dollar volume, being over \$6,800,000. Production work on these coaches will start within the next 60 days at Pontiac, Mich., where all Yellow Coaches are built.

### American Bantam Prices

The American Bantam Car Co., Butler, Pa., has announced prices of its seven 1937 models. The following are f.o.b. factory:

One-quarter ton truck chassis.....	\$275
Chassis with panel body.....	395
Chassis with pick-up body.....	385
Business coupe .....	335
De luxe coupe .....	385
Standard coupe .....	365
Standard roadster .....	385
Custom-built roadster, from .....	445

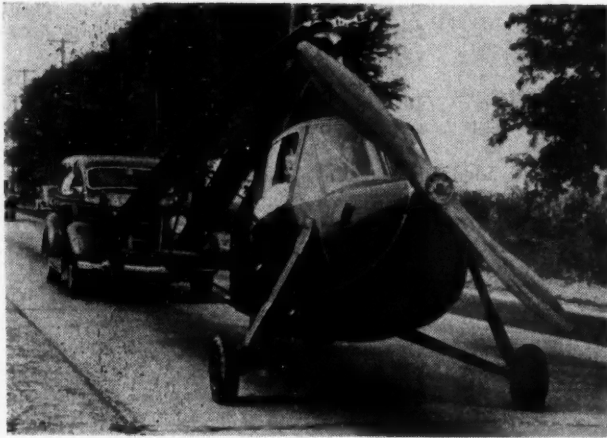
Special equipment and the standard accessory group are extra on all models.



The American Bantam business coupe, priced at \$335 f.o.b. factory, Butler, Pa., is shown above.

(Below) The custom-built American Bantam roadster, with special equipment for high speed performance, lists from \$445 up, f.o.b. Butler, Pa.





The new Pitcairn autogiro travels under its own power on land as well as in the air

Acme photo

## Roadable Autogiro

### *New Type Machine Travels on Land As Well as Air Under Own Power*

An experimental type autogiro, capable of being driven on highways as well as being flown in the air, was delivered to the Bureau of Air Commerce last week at the front door of the Department of Commerce Building by James G. Ray, veteran autogiro pilot and vice-president of the Autogiro Co. of America, Philadelphia, Pa., builders of the craft.

Mr. Ray landed in a small downtown park just north of the Department of Commerce Building, and in a few moments, by folding the rotors back over the fuselage and engaging the tail wheel to a drive from the engine, the autogiro was made "roadable." Mr. Ray then drove down the street to the front entrance of the Commerce Department, where it was formally delivered to Eugene L. Vidal, director of air commerce, for acceptance flight tests. The autogiro is one of six experimental aircraft manufactured for the bureau by various companies, as part of its development program for private owner aircraft types.

The distinctive feature of the autogiro is its roadability, which was demonstrated by Mr. Ray in his trip through the streets to the Commerce Department. The craft is designed for operation on highways after it has landed, or on its way to a field for take-off. This has been accomplished by providing rotor blades which can readily be folded back over the fuselage, a clutch between the engine and propeller so that the propeller may be disconnected from the engine, and a power drive from the engine to the tail wheel so that the autogiro becomes practically an automobile for ground operation.

Pilot and passenger sit side by side in an enclosed cockpit of size equal to that provided in the average automobile coupe. The engine is mounted in the rear of the seats, making for good visibility ahead, and the propeller is in front. Transmission mechanism is provided to bring the rotor up to speed preparatory for flight, and to divert

power to the rear wheel for travel on the ground.

Top speed of the autogiro is 90 m.p.h., and sufficient fuel and oil are carried for 3½ hours' cruising flight with pilot and one passenger and 40 lb. of baggage. Its minimum speed is 20 m.p.h., and it is designed to take off in less than 150 ft. with no wind.

## German Plant in China

### *Benz Reported Building Factories to Make 200 Trucks Monthly*

Arrangements for the erection of two automobile plants in China have been made by the Benz interests of Germany, it has been learned from reliable sources. Machinery has already been bought and the factories are under construction, it is said, one of them being located in Chuchow Hunan and the other in Shanghai Native City. Although the enterprise will be controlled by Chinese interests, German engineers will be sent to China as chief technical executives. At the outset trucks only will be produced.

All necessary machinery has been provided by the German concern. At first, all engines will be imported and only the chassis built in China, the schedule for the first two years being at the rate of 200 a month. Later on both gasoline and Diesel engines may be included in the program, and even the possibility of building complete passenger cars is being considered.

The sponsors of this enterprise have in mind the day when all parts of China will be linked together by a network of modern highways.

## With Allied Industries

Lester M. Curtiss, who has been superintendent of production at Lukens Steel Co., Coatesville, Pa., has been promoted to assistant general superintendent.

Carboloy Co., Inc., Detroit, announces a reduction in prices of Carboloy for tools and blanks, effective Oct. 1. The new price of Carboloy blanks for tool use will be based on 45 cents per gram in any size.

E. C. Bullard, vice-president and general manager of the Bullard Co., Bridgeport, Conn., sailed Oct. 1 for an extended business trip throughout Europe. He will visit Sweden, Russia, Germany, France, England and other countries, returning about the middle of December.

Al P. Wittenman, formerly with Nash Motors and for the past ten years with the Falk Co., Milwaukee, has joined the sales organization of Leland-Gifford Co., Worcester, Mass., in charge of its Cleveland territory.

## Black Leads in Paris

### *Use of Metallic Colors Gains at French Automobile Salon*

The most significant features from the point of view of color treatment of the cars on view at the annual French Automobile Salon, which opened last week in Paris, are the increased use of brown alone and in the use of greyish tones of blue, green, and brown, according to Philip H. Chase, color specialist of the Duco color advisory service. Black, however, still leads as the predominating color. Composite browns containing gray and even beige are prominent. Maroons are still of a very reddish hue.

In the predominance of colors—black leading with approximately 20 per cent of the exhibits—blue follows closely with 19 per cent, then come grey, green, yellow, maroon, beige, brown and red. Although brown is well down the line in percentage it represents a noticeably increased use of that color over recent years, and is one of the outstanding features of the exhibit.

Metallic colors are very much on the increase in European cars. These metallic colors are notable especially in blue, green, and brown. Cars generally are finished in one color, therefore increasing this year's proportion of colored fenders. However, in place of contrasting colors, narrow stripes are appearing again on the belt line.

## Japanese Car Maker Plans Big U. S. Machine Orders

American manufacturers of machine tools stand to profit from the new Japanese policy of self-sufficiency in automobile manufacturing. First of the Nipponese automobile companies to enter the market for tools here is the Nissan Jidosha which has embarked on the second phase of its expansion program and is about to order 2,500,000 yen (\$740,000) worth of new machinery, it is reported.

The Mitsubishi branch in New York City is making contracts for the Japanese company, according to the *Nikkan Kogyo Shimbun*. It is not yet known to what extent these machinery imports will be exempt from import duty, as provided in the automobile industry control law. The law is open to elastic interpretation on this point, and other other Japanese firms are watching the situation with interest since it will establish a precedent.

Nissan Jidosha, hitherto engaged in the manufacture of baby Datsun passenger cars and light trucks, will begin production of standard passenger cars of approximately 112-in. wheel-base next month. The necessary preparations will be completed by the end of



this month. Nissan purchased part of its machinery and dies from Graham and the machinery arrived in Yokohama last month, according to the *Nikkan Kogyo Shimbun*.

The Datsun continues to sell well. One thousand forty-nine cars were registered at the police bureaus from July 15 to Aug. 14. This figure established a new high record for monthly registrations of Datsun cars and trucks. The highest monthly registration was in June with 550 units.

### APEM Employment Up 6.2% Payrolls 14.8% Above '35

A study just completed by Automotive Parts and Equipment Manufacturers, Inc., on the 48 plants used in the original equipment group of the parts industry shows that the first eight months of this year were better, in every respect, than the first eight months of 1935.

Total employment for the group was up 6.2 per cent over last year and was 3 per cent greater than the average employment for 1929. Man-hours worked were up 10.5 per cent and payrolls increased 14.8 per cent. Production employees worked an average of 37.1 hours per week this year as against 35.6 hours per week in 1935.

The average hourly rate for all fac-

tory employees for this year was 67.7 cents per hour, an increase of 3.7 per cent over the similar period last year. Due to the increase in the hourly rate and the greater number of hours worked, the average weekly earning per factory employee was \$25.77 this year as against \$23.79 for the first eight months of last year.



From this field will rise Buick's new building to house the engineering, personnel, laboratory, medical and police divisions, part of the \$14,500,000 plant expansion program now under way. In the background are the steel yard and plant of the forge division, while part of the engine plant is shown at the right

### Nash Profit Rises

\$177,249 for Third Quarter  
Against Loss Year Ago

Net profits of \$177,249 for the third quarter ended Aug. 31, after deducting manufacturing and administration expense and providing for state and federal taxes, were reported to the board of directors of the Nash Motors Co. at their regular meeting here today. The board declared the usual dividend of \$0.25 a share payable Nov. 2 to stockholders of record Oct. 20. This third quarter profit compares with a new loss of \$161,878 during the same period of last year. Net profits for the nine months to Aug. 31, 1936, were \$603,137 against a loss of \$1,124,094 a year ago.

In discussing prospects for the future C. W. Nash, chairman of the board, revealed that the company already has on its books a bank of more than 24,000 orders for its 1937 line of cars, 14,000 for immediate shipment and the remainder for shipment prior to Jan. 1. This assures the company three consecutive 8000 car months, the best period in more than five years without consideration of the normal flow of orders during these months.

### U. S. Branches May Cut List Prices in Japan

The managements of the Japanese branches of Ford and General Motors are credited in the Japanese press with intentions to reduce their list prices in Japan in an attempt to cope with the competition of native manufacturers which is imminent as a result of the protective measures of the automobile industry control law. It is expected that the Ministry of Commerce and Industry will give positive support, such as free-of-duty importation of manufacturing tools and exemption from taxes, not only to the Toyota and Nissan companies, but also to the Kokusan Jidosha Kogyo K.K.

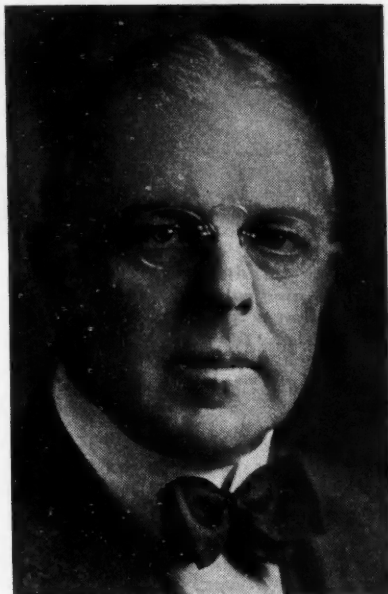
## Eight Months' Exports \$159 Million

Exports and Imports of the Automotive Industry for August and Eight Months Ended August, 1936-1935

	AUGUST		AUGUST		AUGUST			
	1936		1935		1936		1935	
	No.	Value	No.	Value	No.	Value	No.	Value
<b>EXPORTS</b>								
Motor vehicles, parts and accessories.....		\$ 12,359,003		\$ 15,733,705		\$ 158,549,984		\$ 162,097,720
<b>PASSENGER CARS</b>								
Passenger cars and chassis.....	8,209	4,186,011	10,076	5,651,607	120,360	67,576,055	121,206	67,967,559
Low price range \$850 inclusive.....	7,902	3,830,900	9,512	5,022,311	111,604	58,141,199	111,816	57,423,356
Medium price range over \$850 to \$1,200.....	250	242,263	399	380,007	6,514	6,172,237	7,650	7,373,210
\$1,200 to \$2,000.....	38	57,552	62	95,708	910	1,392,769	1,180	1,745,880
Over \$2,000.....	19	55,296	46	125,588	589	1,564,884	560	1,445,113
<b>COMMERCIAL VEHICLES</b>								
Motor trucks, buses and chassis (total).....	7,385	3,858,305	9,997	5,547,271	66,576	34,534,054	74,890	37,892,857
Under one ton.....	1,195	451,379	1,094	387,287	5,872	2,018,842	11,891	4,501,923
One and up to 1½ tons.....	5,119	2,516,171	6,815	3,575,760	48,987	22,403,964	49,421	22,684,748
Over 1½ tons to 2½ tons.....	891	697,608	1,828	1,213,373	9,795	7,219,688	9,729	6,992,521
Over 2½ tons.....	141	157,579	232	339,965	1,532	2,560,581	2,026	2,854,596
Bus chassis.....	39	35,568	15	24,252	182	233,284	1,623	859,067
<b>PARTS, ETC.</b>								
Parts except engines and tires.....								
Automobile unit assemblies.....		1,597,139		1,617,207		31,894,330		29,069,525
Automobile parts for replacement (n.e.s.).....		1,975,239		2,234,174		17,576,789		17,467,225
Automobile accessories (n.e.s.).....		243,230		240,236		1,939,712		2,090,220
Automobile service appliances.....		309,598		397,459		2,730,404		2,864,692
Airplanes, seaplanes and other aircraft.....	58	1,180,730	19	212,603	217	4,912,748	392	7,597,099
Parts of airplanes, except engines and tires.....		483,451		496,531		3,450,385		3,563,721
<b>INTERNAL COMBUSTION ENGINES</b>								
Stationary and Portable.....								
Diesel and semi-Diesel.....	2	12,771	40	59,371	209	540,488	44	123,348
Other stationary and portable.....								
Not over 10 hp.....	825	61,613	611	42,412	6,562	368,466	7,656	476,437
Over 10 hp.....	156	80,325	157	90,077	1,036	582,641	1,562	638,642
Automobile engines for.....								
Motor trucks and buses.....	361	42,444	447	44,747	2,902	407,868	15,317	1,482,678
Passenger cars.....	523	43,268	413	33,114	18,991	1,219,879	33,480	2,301,556
Engines and aircraft.....	87	643,980	90	496,792	385	1,563,544	496	2,546,748
Accessories and parts (carburetors).....		140,150		112,026		1,084,099		1,303,107
<b>IMPORTS</b>								
Automobile and chassis (durable).....	89	35,680			503	250,079	12	16,913

## Charles Hayden Named Mack Truck Chairman

Owing to the death of A. J. Brosseau, president, the board of directors of Mack Trucks, Inc., the parent holding company of the Mack Trucks group,



Charles Hayden  
elected chairman of the board  
of directors of Mack Trucks,  
Inc.

this week created the office of chairman of the board and elected to that office Charles Hayden, who has long been a member of the board. Mr. Hayden also accepted temporarily the office of president of the parent holding company.

International Motor Co., the principal manufacturing subsidiary, of which Mr. Brosseau was a director but not an officer, has as its president E. C. Fink, and as its senior vice-president W. R. Edson.

## MEMA Index Off from July But Well Above August '35

Declines in automotive shipments in all branches of the industry were apparent in August, according to manufacturers reporting their monthly business figures to the Motor & Equipment Manufacturers Association. While service parts shipments and service equipment shipments to wholesalers declined very slightly, the former dropping only one point, the seasonal decline in original equipment shipments as well as the 13-point loss in accessories brought the total index figure down.

### MEMA Current Monthly Index

(January, 1925, equals 100)

	Aug. 1936	July 1936	Aug. 1935
Original Equipment Shipments to Vehicle Mfrs.	108	145	85
Service Parts Shipments to Wholesalers	147	148	124
Accessories Shipments to Wholesalers	75	88	126
Service Equipment Shipments to Wholesalers	106	109	75
Grand Index (Composite) of above divisions	110	136	92
Index Car and Truck Production	115	188	103
Index General Business (Bank Transactions)	68	76	66

The grand index for August of all groups reporting stood at 110 per cent of the 1925 base. This compares with 136 per cent for July and 92 per cent for August, 1935. Shipments to vehicle manufacturers for original equipment dropped to 108 per cent of the base as compared with 145 per cent for July and 85 per cent for August last year.

## :SLANTS:

**ELEPHANTS**—The elephant market in India is severely depressed. At a recent public sale in Calcutta 11 elephants were sold at an average price of only \$345, well under quotations of former years, according to a report to the Department of Commerce. The animals are used for heavy transport. Rulers and wealthy individuals keep them for state occasions and hunting expeditions. That they are slowly going out of style and being replaced by the automobile is the conclusion drawn from the falling market. Elephants will still be used, however, for work in the teak forests of Burma and for transport work in parts of India where there are no roads.

**ARGENTINE NEEDS** — Argentina will need to import 100,000 motor vehicles per year for several years to replace worn out machines and to take care of the market that is now rapidly expanding thanks to the road-building program, according to Ingeniero Alende Posse, president of the national roads board, who recently visited the United States. Argentine automobile imports declined sharply during the past five years. Wear and tear brought the number in circulation down from 436,000 in 1930 to only 250,000 today. The day when the automobile was regarded as a luxury is past, says Ing. Posse. Today it is a work vehicle and the average distance covered per day per vehicle is double what it used to be, thanks to the 6000 kilometers of hard-surfaced roads now in use.

**AIR PASSENGERS**—Air lines operating in the continental United States carried 106,143 passengers last August, according to reports received by the Bureau of Air Commerce, Department of Commerce, from the 22 companies operating. These lines flew 6,046,421 miles, carried 565,358 lb. of express and flew 43,109,200 passenger miles during the month.

**FIELD TO FACTORY**—"Farms of the Future" is the title of a new sound-slide film produced by the Ford Motor Co. to illustrate Mr. Ford's contention

that the problem of farm surpluses will be solved eventually by the use of farm crops in the world's industries.

## 1937 Graham Prices

### Custom Supercharger Series 120

Business Coupe	\$954
Coupe, rumble seat	975
Touring Sedan, 4-door	995
Touring Sedan, 4-door, with trunk	1,025

### Supercharger Series 116

Business Coupe	\$865
Coupe with rumble seat	895
Touring Sedan, 2-door	865
Touring-Sedan, 2-door, with trunk	895
Touring Sedan, 4-door, with trunk	925

### Cavalier Series 95

Business Coupe	725
Coupe with rumble seat	775
Touring Sedan, 2-door	745
Touring Sedan, 2-door, with trunk	775
Touring Sedan, 4-door	775
Touring Sedan, 4-door, with trunk	805

### Crusader Series 85

Touring Sedan, 2-door	595
Touring Sedan, 2-door, with trunk	625
Touring Sedan, 4-door	665
Touring Sedan, 4-door, with trunk	695

## Perfect Circle Bonus

### Based on Length of Service, 5 to 10 Per Cent Extra Is Paid

On Oct. 2, 1936, a bonus was paid to the employees of the Hagerstown New Castle and Tipton, Indiana plants of the Perfect Circle Co. The average amount of money received by employees was \$37, and the largest amount received by any one person was \$125.

In announcing the payment of the bonus, C. N. Teetor, president, made the following statement to employees:

"Ever since this company was founded it has paid the standard or above standard wages of the communities in which its plants were located. In addition, the company has paid annual dividends to its stockholders, which in recent years have been at the rate of \$2 per share per year. The company has always operated on the policy that a strong cash position was the best insurance it could have to keep employment steady and maintain its leading position in the piston ring industry. The balance of profits has been used to build a cash account that would stand the emergency of poor business, plant expansion or the introduction of new products.

"The soundness of this policy is now being proven. Ample funds were available to develop, manufacture and place on the market our new product, the X-90 ring. The sale and acceptance of this product has surpassed our expectations and this has increased profits. Profits for the first six months of this year were above normal and, as a result, a surplus of cash has been accumulated in excess of the requirements of the business.

"Therefore, the board of directors



has ordered that a distribution of these profits be made to both employees and stockholders. Employees are to receive a profit sharing bonus, stockholders an extra dividend. Thus employees receive more than normal wages for their efficient work, and stockholders receive more than normal interest for their investment and risk in the business."

Based on the total income received from the company from Dec. 31, 1935, to June 22, 1936, employees will receive bonuses of from 5 to 10 per cent of this amount, depending on length of service.

## AMA Member Shipments Up 26% for First 9 Months

Factory shipments by members of the Automobile Manufacturers Association during the first nine months of this year amounted to 2,561,905 cars and trucks according to the preliminary report released today by the association.

On the basis of this estimate operations for the group are running 26 per cent above last year and 72 per cent above the five-year average.

September shipments of association members, with only a few companies in new model production, amounted to 56,302 units—a decrease of 5 per cent under the corresponding month last year.

The report, which covers all but one of the major producers of motor vehicles in the United States, is summarized below:

September, 1936	56,302
August, 1936	206,193
September, 1935	59,329
9 months 1936	2,561,905
9 months 1935	2,030,897



**LANSING THOMS** has been named assistant general sales manager of Graham-Paige Motors Corp. He has been with Graham for nine years having served as vice-president and general sales manager in the Michigan distributorship, New England district manager and national director of districts.

**DEL N. LARSON**, who has been western sales manager, succeeds Lansing Thoms as director of districts with Graham-Paige Motors Corp.

**ADRIAN MARMOR**, who has been connected with the Autocar Co., Ardmore, Pa., for several years in the capacity of designer, is now with the Hale Fire Pump Co., Inc., Conshohocken, Pa., as superintendent, having charge of the design and manufacture of fire apparatus.

**HAROLD S. VANCE** chairman of the board, Studebaker corporation, is in Europe to attend automobile shows in London and Paris. He will return October 23.

**VINCENT BENDIX**, president of the Bendix Aviation Corp., sailed on the Normandie for Europe where he will visit sev-

eral automobile and airplane shows in various cities and call at the offices and plants of foreign firms associated with the Bendix interests.

**JESSE W. SANGER** has been appointed special representative of Nash Motors Co. in South America. Mr. Sanger will leave New York for Rio de Janeiro Oct. 3 and plans to make his headquarters in Rio.

**ALBERT FILLNOW** has been appointed director of inventory parts sales of the Four Wheel Drive Auto Co., Clintonville, Wis. Mr. Fillnow has been claims clerk in the FWD service department.

**WILLIAM ELLIOTT**, Mitchellville, Ia., who formerly acted as a serviceman, and later was employed in the experimental department of the Four Wheel Drive Auto Co., has been promoted service engineer of the company.

**GUSTAV INGOLD**, Auburn factory representative for Europe, has returned to the Continent after several weeks' visit at the factory here. He will attend the Paris Automobile Salon, the London Olympia, and other motor car shows in Europe this fall.

**J. A. DONNELLY**, manager of the Chicago branch of the Autocar Co., was elected vice-president of the Autocar Sales & Service Co. at a meeting of the board of directors this week. Mr. Donnelly joined the Autocar Co. in 1930.

**W. P. LOTZ** has joined the Fellows Gear Shaper Co. as assistant sales manager with headquarters in Detroit. He recently returned from the Far East, where he acted as special representative for a number of companies.

## Labor Lay-Off Rates Made Peak in August

Indicating a more general and earlier shut-down this year than last, the employment statistics of the U. S. Department of Labor for the month of August show a lay-off rate of 26.94 per 100 employees in the automobile and body industry against 13.84 a year ago, and a total separation rate of 28.15 against 14.73.

That parts plants were busier in August than in the same month last year is shown by the slightly better rate of 3.85 per 100 for lay-offs as



Automobile races are becoming popular in Japan. Here is a scene at the newly completed speedway near Tokyo.

compared with 5.54, and 5.64 for total separations against 6.45, in the report covering automobile parts industry figures.

The following table gives detailed figures:

Monthly Turn-Over Rates (per 100 employees) in Specified Industries

Automobiles and Bodies				
Class of rates	Aug. 1936	July 1936	Aug. 1935	July 1935
Quit	0.99	1.28	0.70	0.70
Discharge	0.22	0.28	0.19	0.19
Lay-off	26.94	6.80	13.84	13.84
Total separation	28.15	8.36	14.73	14.73
Accession	4.30	2.99	3.39	3.39

Automobile Parts				
Class of rates	Aug. 1936	July 1936	Aug. 1935	July 1935
Quit	1.43	1.64	0.70	0.70
Discharge	0.36	0.40	0.21	0.21
Lay-off	3.85	3.48	5.54	5.54
Total separation	5.64	5.52	6.45	6.45
Accession	5.47	4.50	6.88	6.88

## W-O Reorganization Completed

### Last Minute Opposition by Stockholder Fails; Manufacturing Property Conveyed

Willys-Overland Motors, Inc., won a complete victory in the United States Court of Appeals at Cincinnati when the petition of Edward D. Hoffman, Akron minority stockholder, asking leave to appeal the decision on reorganization, was denied late Tuesday. The reorganization was approved by Judge George P. Hahn in Toledo on Aug. 28 after extended hearings. It was shown that Hoffman was present at the hearings but made no protest.

Judges Xenophon Hicks, C. O. Simons and Florence E. Allen heard the petition for leave to file an appeal, in which the stockholders claimed irreparable loss would accrue to stockholders by virtue of the plan. David

R. Wilson, trustee and president of the new company, was represented by Brown and Sanger, and Empire Securities, Inc., by George W. Ritter.

Virtually no delay in the reorganization has been encountered due to the move for an appeal. Stock rights have expired and by Oct. 10 underwriters will be notified as to the amount of stock they will be asked to take for distribution to the general public. Willys Overland Motors, Inc., received the deed on Thursday for property of Willys Overland which it will use for manufacturing and it was filed in the county recorder's office. David R. Wilson, trustee under order of the Federal Court, conveyed the property.

# Business in Brief

Written by the Guaranty Trust Co., New York, exclusively for AUTOMOTIVE INDUSTRIES

The recent gains in general business were continued last week, with the heavy industries particularly active. The announcement of the intention to devalue the French franc had an unsettling influence on money markets throughout the world, but the tension was relieved as the Bank of France released funds. Although retail business in New York City and the drought areas was somewhat disappointing, retail trade for the country as a whole showed gains last month; and it is expected that further improvement will occur in October. Retail sales last week were from 10 to 18 per cent above those in the corresponding period last year, while wholesale business showed gains from 20 to 25 per cent.

## Freight Movement Heavier

Railway freight loadings during the week ended Sept. 26 amounted to 807,070 cars, which marks an increase of 17,560 cars above those in the preceding week, a gain of 177,135 cars above those a year ago, and a rise of 160,986 cars above those two years ago.

## Power Output Steady

Production of electricity by the electric light and power industry in the United States during the week ended Sept. 26 was slightly below that in the preceding week but was 16.1 per cent above that in the corresponding period last year.

## Lumber Production Gains

Lumber production during the week ended Sept. 19 was 72 per cent of the 1929 weekly average. Shipments and new business were equal to production, and heavy gains in these two items above the figures for the preceding week were largely due to the Labor Day holiday.

## Crude Output Firm

Average daily crude oil production for the week ended Sept. 26 amounted to 3,030,050 bbl., as compared with 3,037,000 bbl. for the preceding week, and 2,763,200 bbl. for a year ago.

## Fisher's Index

Professor Fisher's index of wholesale commodity prices for the week ended October 3 stood at 84.0, the same as the week before, as against 84.1 two weeks before.

## Federal Reserve Statement

The consolidated statement of the Federal Reserve banks for the week ended Sept. 30 showed an increase of \$2,000,000 in holdings of discounted bills. Holdings of bills bought in the open market and government securities remained unchanged. Money in circulation increased \$27,000,000, and the monetary gold stock gained \$59,000,000.

than half of all Ford original equipment tires.

Ford's requirements this year will number approximately 5,000,000 casings. The specifications issued for bids from equipment manufacturers, it is understood, called for equipment sufficient to produce 24,000 tires per day on a basis of three eight-hour shifts.

Akron tire company observers say that in view of the heavy orders booked by equipment manufacturers, it would probably be a matter of two or three years before the Ford company could get sufficient new equipment to produce up to 24,000 tires a day.

## National Motor Boat Show In New York Jan. 8-16

The 1937 National Motor Boat Show has been scheduled at Grand Central Palace in New York next Jan. 8 to 16, it was announced this week by Henry R. Sutphen, president of the National Association of Engine and Boat Manufacturers. The dates are about 10 days earlier than in previous years.

Ira Hand, secretary of the manufacturers' association and show manager, said that a lease had been signed for the three main exhibition floors at the Palace, and an option taken on the fourth floor.

## Perfect Circle to Pay Extra

The board of directors of the Perfect Circle Co. declared an extra dividend of 50 cents a share on the 162,500 shares of the common capital stock. The extra dividend is payable Nov. 1, to stock of record as of Oct. 16, 1936.

## Trailer Regulations

### State Vehicle Administrators to Discuss Uniform Laws

Chief subject to come before the annual meeting of the American Association of Motor Vehicle Administrators to be held at Hot Springs, Ark., Nov. 12-14, will be the regulation of tourist trailers. Increasing use of these is recognized as constituting a new traffic hazard which should be met so far as possible by uniform State laws and regulations.

At least 38 State motor vehicle administrators are expected to bring to the meeting concrete proposals for tourist trailer regulation and from these the administrators will draw up a code for presentation to the various State legislatures.

## Japan Plans to Extend Air Research Centers

The Japanese Mombusho (education office) recently decided to create aeronautical sections in Osaka and Kyushu Imperial Universities, and at

the Yokohama, Nagoya, and higher technical schools, as organs for collective research in airplanes, engines, airships, and gliders. Heretofore only the physics department of the Tokio Imperial University has had an aeronautical research organ.

The number of students to be admitted to the new aeronautical sections will be limited to ten each, it is understood. The education office, it is reported, desires to open the new research organs in 1938. The cost of construction and equipment is estimated at 1,000,000 yen (\$295,000).

## Ford Tire Making Plans

(Continued from page 465)

the Firestone company has remained silent and apparently inactive so far as decentralization is concerned. Automotive observers also recall the close personal friendship that has existed for years between Henry Ford and Harvey Firestone, and find it difficult to believe that Ford would divorce himself abruptly and completely from the tire company which has supplied more

## 40 Years Ago

—with the ancestors of  
AUTOMOTIVE INDUSTRIES

### Are More Races Needed?

There appears to be a difference of opinion among French experts as to the desirability of holding further races. Some, though admitting the great benefits the industry has derived from the three already run, deprecate any more contests on the ground that speed would again be raised a notch and the danger greatly increased. Serious or fatal accidents would be almost sure to follow, and then the authorities would feel compelled to step in and restrict the speed of motor vehicles. Besides, they contend, the new vehicle is already thoroughly advertised and fast coming into general use, and no more advertising of this kind is needed.

Others, among them, Count de Dion, still see value in the race. . . . There is truth in both these contentions. Road contests give valuable lessons, but they must be carefully regulated or they will result in deplorable accidents. —From *The Horseless Age*, Oct., 1896.



# Automotive Metal Markets

## Large Portion of Present Steel Production Going Into Stock for Use During Last Quarter

By William Crawford Hirsch

With steel mill operations maintained on a virtually even keel during the past fortnight, it is sensed in the steel market that production is no longer the true measure of consumption and that more and more steel is being made for later needs. In some instances the impetus toward anticipating later requirements was furnished by announcement of impending price advances; in others it seemed advisable to insure prompt deliveries.

In any event, automotive consumers have been taking during the last few weeks, and continue to take, considerable tonnages which they will not have to order in October. Some of this has been converted into parts, ready for assemblies when the latter are scheduled; more is on the unfilled orders books of steel mills.

There is now talk of a further advance in steel prices, embracing all those descriptions of finished products that did not share in the recent price increase. Non-integrated strip producers, who now have to pay \$2 a ton more for their semi-finished material, are said to be particularly dissatisfied with market prices.

That automotive demand, especially for cold rolled strip, is most encouraging is seen from announcement that one of the large Detroit district mills is installing additional equipment which will give it an increase of 40,000 tons of cold rolled strip a year. In view of the fact, however, that quite a few of the sheet mills are booked to very nearly the extent of their capacity in cold rolled sheets over the remainder of the year, it is surmised that, in so far as their flat steel requirements are concerned, automotive consumers are well covered for the current quarter. If, as the market prophets have it, announcement of an advance comes about Nov. 15, interest in it will be chiefly with a view to first quarter 1937 needs, even though the highly improbable should happen and these advances become immediately effective. Those who predict such an advance say that it will be preceded by the long-discussed wage advance of steel mill workers. Visibility in the steel market at this time hardly extends beyond Nov. 3. The scrap market, however, ostentatiously paraded as a high cost ingredient in the last few weeks, has begun to give way and is now quoted lower, with prospects of further easing off as the supply from automotive plants increases.

**Pig Iron**—Talk persists that \$1 a ton advance overhangs the market some predicting that the rise will apply to first quarter 1937 business which would result in quickening buying previous to the advance. Movement of iron from blast furnaces to consuming points is seasonally furthered by the rush to take advantage of what time remains for Great Lakes navigation.

**Aluminum**—The undertone of the market for secondary aluminum is a shade stronger. Prices, however, remain unchanged. The market for primary metal is steady and unchanged.

**Copper**—While consumption is at a high rate, fresh buying is rather a tame affair, only a few thousand tons having been sold since the beginning of the month. Price is unchanged at 9½ cents.

**Tin**—The market rules dull with the week's opening price for spot Straits 45.65 cents, 20 points higher than at the preceding week's close.

**Lead**—Active and firm.

**Zinc**—Quiet and unchanged.

### 13 New NSPA Members

Election of 13 new members as of Oct. 3 is announced by E. P. Chalfant, executive vice-president of NSPA. Eleven are wholesalers and two are

manufacturers. These members bring the 1936 total of new NSPA members to 121.

### S. Africa Buys 37 GMC Trucks for Road-Building

As one of the first steps in a \$25,000,000 road construction program, the Union of South Africa has purchased 37 GMC trucks, according to an announcement by the General Motors Truck Co. The trucks are to be equipped with hoists and shipped to Port Elizabeth, from which point they will be sent out on the various road improvement projects planned for South Africa.

The road program takes in not only the building of new highways but the improvement and widening of many now existing, and presages the more widespread use of automobiles in the growing country of South Africa.

## Calendar of Coming Events

### SHOWS

Olympia Motor Show, London, England,	Oct. 15-24
Czechoslovakia, 26th International Automobile Exposition, Prague.....	Oct. 16-25
9th International Automobile Salon, Milan, Italy .....	November
National Motor Truck Show (N. J. Motor Truck Assn.), Newark, N. J.,	Nov. 3-7
Canadian National Automobile Show, Toronto .....	Nov. 7-14
National Automobile Show, Grand Central Palace, New York .....	Nov. 11-18
Omaha Automobile Show.....	Nov. 11-15
Philadelphia Automobile Show.....	Nov. 12-19
Scottish Motor Show, Glasgow.....	Nov. 13-21
International Aviation Show, Paris, France .....	Nov. 13-29
Columbus Automobile Show.....	Nov. 14-20
Boston Automobile Show.....	Nov. 14-21
Buffalo Automobile Show.....	Nov. 14-21
Chicago Automobile Show.....	Nov. 14-21
Detroit Automobile Show.....	Nov. 14-21
New Haven Automobile Show.....	Nov. 14-21
Indianapolis Automobile Show.....	Nov. 14-21
Washington, D. C., Automobile Show,	Nov. 14-21
Cincinnati Automobile Show.....	Nov. 15-21
St. Louis Automobile Show.....	Nov. 15-22
Pittsburgh Automobile Show.....	Nov. 16-21
Brooklyn Automobile Show.....	Nov. 21-28
Cleveland Automobile Show.....	Nov. 21-28
Montreal Automobile Show.....	Nov. 21-28
Kansas City Automobile Show.....	Nov. 21-29
Milwaukee Automobile Show.....	Nov. 22-29
Portland Automobile Show.....	Nov. 22-29
Baltimore Automobile Show.....	Nov. 26-Dec. 5
28th Automobile Salon, Brussels, Belgium .....	Nov. 28-Dec. 9
Peoria Automobile Show.....	Nov. 30-Dec. 5
Natl. Exposition of Power & Mechanical Engineering, Biennial Meeting, New York City .....	Nov. 30-Dec. 5
First International Consumers Petroleum Exposition, Convention Hall, Detroit	Dec. 5-13
Automotive Service Industries Joint Show, Chicago .....	Dec. 9-13
National Motor Boat Show, New York,	Jan. 8-16
Illinois Automotive Ass'n, 4th Annual Show and Maintenance Exhibit, Navy Pier, Chicago.....	Apr. 24-28, 1937

### CONVENTIONS AND MEETINGS

National Association of Lubricating Grease Manufacturers, 4th Annual Convention, Chicago .....	Oct. 12-15
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Annual Meeting of the National Association of Motor Bus Operators, Detroit, Mich. ....	Oct. 15-16
National Battery Manufacturers Assoc., 12th Annual Convention, Chicago, Ill. ....	Oct. 15-16
First Aircraft Production Meeting of the S. A. E., Los Angeles.....	Oct. 15-17
American Trucking Associations, Inc., Third Annual Convention, Chicago,	Oct. 19-21
American Society for Metals, 18th Nat'l Congress, Cleveland, O. ....	Oct. 19-23
16th Annual Meeting of the American Welding Society, Cleveland, O.,	Oct. 19-23
American Gas Association, Annual Meeting, Atlantic City.....	Oct. 26-31
American Foundrymen's Ass'n Conference on Foundry Practice, Univ. of Iowa, Iowa City, Ia. ....	Oct. 30-31
American Petroleum Institute, Annual Meeting, Chicago .....	Nov. 9-12
Society of Automotive Engineers Annual Dinner, New York.....	Nov. 12
American Association of Motor Vehicle Administrators, Annual Meeting, Hot Springs, Ark. ....	Nov. 12-14
International Day, National Automobile Show, New York .....	Nov. 16
National Foreign Trade Convention, Chicago .....	Nov. 18-20
16th Annual Meeting, Highway Research Board of the National Research Council, Washington, D. C. ....	Nov. 18-20
International Acetylene Assn., 37th Annual Convention, St. Louis,	Nov. 18-20
Natl. Industrial Traffic League, Annual Meeting, New York City.....	Nov. 19-20
Tin Can Tourists' Get-Together Meeting, Lake City, Fla. ....	Nov. 22-28
Tin Can Tourists' Homecoming, Arcadia, Fla. ....	Dec. 28, 1936-Jan. 3, 1937
S. A. E. Annual Meeting, Detroit, Mich.,	Jan. 11-15, 1937
Tin Can Tourists' Winter Convention, Clearwater, Fla. ..	Jan. 29-Feb. 8, 1937
Tin Can Tourists' Annual Convention, Sarasota, Fla. ....	Feb. 8-14, 1937

### CONTESTS

First Annual 400-Mile International Sweepstakes, Roosevelt Raceways, L. I. ....	Oct. 12
500-Mile International Sweepstakes, Los Angeles Raceway .....	Nov. 29

# Yellow Truck Refinancing Plan

## Stockholders to Vote on Reducing Capital Stock Structure and Sale of New Issue to Provide Working Funds

A special meeting of stockholders of Yellow Truck and Coach Mfg. Co. has been called for Nov. 4 for the purpose of reducing capital and changing the capital stock structure of the company. Proposed changes are necessary in view of certain provisions of the Revenue Act of 1936 which imposes a tax upon undistributed net income of corporations despite the fact this corporation has a deficit and may not legally declare dividends. Changes are also desirable to provide working capital by reason of increase in volume of business.

The proposed plan of change in capital structure will create a capital surplus permitting payment of dividends out of earnings. The company has presently outstanding 150,000 shares of 7 per cent preferred, 1,300,000 shares of Class B and 800,000 shares of common stock. Under the proposed plan, the company will have 143,980 shares of 7 per cent preferred, 2,200,000 of Class B and 800,000 shares of common stock.

Par value of present stock is \$100, \$10 and \$10, respectively, and the proposed new stock will be \$100, \$1 and \$1, respectively. The proposed action contemplates payment in 1936 of preferred dividends in arrears to the extent of approximately \$4,500,000 which will leave approximately \$4,571,000 in preferred dividends in arrears as of Dec. 31, 1936. Payment of this dividend in 1936 will save Class B and common stockholders a tax of approximately \$900,000 and brings holders of these junior shares closer to payment of dividends on their stock. It is proposed also to offer for sale to Class B and common stockholders 900,000 additional shares of B stock, at \$10 a share on the basis of approximately 43 shares of new Class B for each 100 shares of Class B or common stock held.

General Motors Corp., owner of 72.845 per cent of the outstanding preferred, 100 per cent of outstanding common, and 19.235 per cent of outstanding Class B stock, has agreed to purchase at \$10 per share as many of the additional 900,000 shares of B stock as are not subscribed for by Class B or common stockholders. No change is proposed in designations, preferences, privileges or qualifications thereof.

In a letter to stockholders, I. B. Babcock says that net sales for the first nine months this year were approximately \$46,000,000 and for the 12 months ended Sept. 30 were approximately \$55,000,000. Net earnings for 1936 on the basis of nine months actual and forecast of last three months will be approximately \$4,500,000 or about \$4,000,000 more than reported for 1935. Sales for 1936 are estimated at

\$58,000,000 or an increase of approximately \$22,000,000 over 1935.

"The company's present working capital is not adequate to handle the present volume of business," said Mr. Babcock, "as it was necessary to borrow from banks this year to finance inventory. To take advantage of every opportunity in the truck and bus industry for 1937, it is essential that working capital be strengthened."

## Big Gain Predicted

(Continued from page 465)

cent. Because of the later start on new model production, the fourth quarter will not continue the progressive increases but will be more closely in line with the corresponding period last year, with the probability of a slight increase as momentum picks up on new model production.

All records for sales, shipments and deliveries of new cars to purchasers in the entire history of the Packard Motor Car Co. were broken during September. During the first 20 days of the month, sales totaled 8008 cars and the last 10 days brought the total to 12,851. This compares with 3603 in September last year, and 7404 in August, 1929, which stood previously as Packard's best month.

Shipments of Hudsons and Terraplanes for the 1936 season totaled 116,085 cars, according to figures just released by William R. Tracy, vice-president in charge of sales of the Hudson Motor Car Co. This is a gain of 54 per cent over shipments of 1935 models and

is the greatest shipment of any season models since 1929.

Studebaker sales of 11,110 in September were larger than in any month since March, 1929, comparing with sales of 7481 in 1929, the next best September.

## Annual Oilmen's Meeting In Chicago Nov. 9-12

Of interest to the automotive industry are a number of papers on the program of the 17th annual meeting of the American Petroleum Institute, to be held at the Stevens Hotel in Chicago, Nov. 9-12.

The group session at 8 p. m., Nov. 10, will consider the general subject of "Automotive Transportation." R. Cass, of the White Motor Co., will speak on "Analysis of Truck Design with Special Reference to Tank Trucks"; C. Wesley Boag, of the Heil Co., will speak on "The Truck Tank, a Conveyor of Petroleum Products and the Developments Which Called It Into Use," while the subject of an address by Ted. V. Rodgers, of the American Trucking Associations, Inc., will be "What Cooperation Can Do for the Trucking Industry."

The program of the refining division's meeting at 10 a. m., Nov. 12, includes: "Lubrication Requirements of Automotive Gears and Rear Axles," by H. R. Wolf, General Motors Corp., and "The Newer Bearing Materials and Their Lubrication," by H. C. Mougey, General Motors Corp. These subjects will be discussed by automotive and petroleum technologists.

## Lincoln Zephyr 1937 Prices

On going to press it is learned that prices on the 1937 Lincoln Zephyrs will be dropped, the new low on this line being \$1,090 f. o. b. Detroit as against the former price of \$1,275, making a cut of \$185.

# GM Nine Months' Sales 1,516,092

## Big Spread Between Sales to Dealers and to Consumers in September Indicates Near-Shortage of New Cars

September sales of General Motors cars to dealers in the United States and Canada, together with shipments overseas, totaled 19,288 compared with 39,152 in September a year ago. Sales in August were 121,943. Sales for the first nine months of 1936 totaled 1,516,092 compared with 1,220,182 for the same period of 1935.

Sales of General Motors cars to consumers in the United States totaled 85,201 in September compared with 66,547 in September a year ago. Sales in August were 133,804. Sales for the

first nine months of 1936 totaled 1,346,915 compared with 951,373 for the same nine months of 1935.

Sales of General Motors cars to dealers in the United States totaled 4669 in September compared with 22,986 in September a year ago. Sales in August were 99,775. Sales for the first nine months of 1936 totaled 1,260,154 compared with 975,329 for the same period of 1935.

The accompanying table shows details of General Motors sales in domestic and foreign markets.

	September 1936	August 1936	September 1935	Nine Months 1936	Nine Months 1935
Sales to world dealers.....	19,288	121,943	39,152	1,516,092	1,220,182
Sales to U. S. dealers.....	4,669	99,775	22,986	1,260,154	975,329
Sales to U. S. consumers....	85,201	133,804	66,547	1,346,915	951,373
Change in U. S. dealer stocks	-80,522	-34,029	-43,561	-86,761	+23,956
Sales to foreign dealers.....	14,619	22,168	16,166	255,938	244,853



# Just Among Ourselves

## Regulations Cast Their Shadows

**D**URING the past two weeks we have been getting answers to questionnaires sent to State motor-vehicle authorities on the subject of tourist trailers. The returns are incomplete at this writing, and there hasn't been time to wholly digest the data, but one or two things stick out from even a quick look at the returned questionnaires.

First, motor-vehicle administrators seem overwhelmingly of the belief that some form of special regulations will have to be adopted to control growing traffic of tourist trailers. The form that such regulation will take seems somewhat in doubt, but many of the questionnaires give a broad hint by listing the exact date when a state legislature will reconvene.

Second, it is apparent that the state motor-vehicle authorities look forward with interest to the next meeting of their association, at which there will be an open discussion of the whole tourist-trailer problem. One or two administrators have noted that they will probably follow recommendations which come out of the meeting, so far as they are adaptable to a particular state.

Most important is the fact that most of the answers to the questionnaires indicate temperate and open minds on the question of regulating tourist trailers.

But we reiterate now, on the basis of sound evidence, what we

have expressed earlier as a matter of opinion—that the tourist-trailer manufacturers are going to face regulation by the states, and the sooner they are prepared as a group to meet it, the better it will be for them.

## Factory-Jobber Used Car Dress-Up

**F**OR some time the Chevrolet Motor Co. has been emphasizing to its dealers the importance of appearance-reconditioning of used cars, with excellent results. Recently the factory went to dealers with a concrete plan for effecting such reconditioning through the purchase of various pieces of equipment from the automotive wholesaler in the dealer's territory.

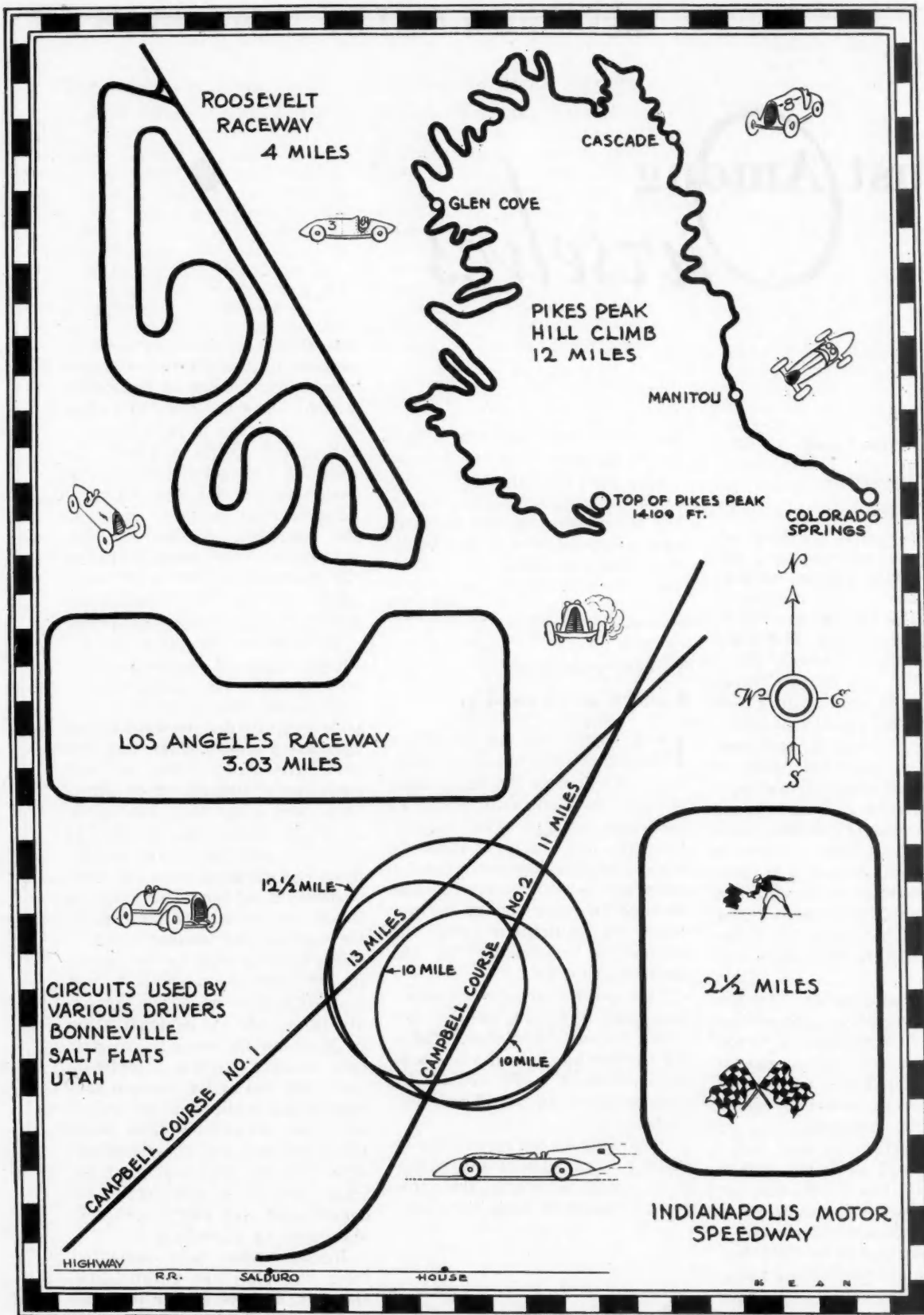
This doesn't sound very startling, but it is one of the few times, to our knowledge, that a car factory has helped jobbers to sell equipment to its dealers by a direct form of merchandising tie up.

According to the reports we're getting from jobbers and equipment manufacturers, the program originated with the Clay-

ton Mfg. Co., Alhambra, Calif., makers of the Kerrick Cleaner, a specialized piece of equipment which cleans the body and chassis preparatory to refinishing or retouching. With a truck supplied by Chevrolet, jobbers representing Kerrick and calling on all Chevrolet dealers, and with the assistance of Chevrolet zone managers, are demonstrating the ease and rapidity with which used cars can be reconditioned from an appearance standpoint.

Included on the trucks are approved lines of lacquers, spray equipment, air compressors, solder guns, electric sanders and polishers, fender hammers, and upholstery cleaners. Demonstrations are made either at zone meetings of dealers or by direct calls, and after the demonstrations the dealers are advised to purchase the necessary equipment and supplies from the demonstrating jobber. The program is said to be advancing rapidly throughout the country and is being held up only by the inability of some jobbers to get trained men to make the demonstrations. At a demonstration in Minneapolis recently one-half of a derelict car was completely reconditioned by two men in several hours while dealers looked on. The dealers then were taken to lunch and shortly thereafter the car was delivered for their inspection completely reconditioned, and worth considerably more as a used car.

Jobbers who have benefited from the plan are enthusiastic about it, and we rather imagine that other alert manufacturers of shop equipment will be seeking for similar tie-ups with car manufacturers.—H. H.



Bonneville data and diagrams, courtesy The Autocar

**Patterns in American Speedways:** Here in outline are the shapes and sizes of the principal spots which figure in the "Revival of Racing" so far as the United States is concerned. Only notable exclusion is Daytona Beach, for which official course maps are not available, and which changes with the tides.



# ***SPEED—the Recrowned King***

*Raceways have recently appeared in large numbers to give the public interest new outlets and engineers new points of focus*

**By Frank Tighe**

**S**AFETY-MINDED America is, once again, being lured by the drama of the speedway—despite the fact that only a year or so ago automobile racing was well-nigh the forgotten mania of the industry.

Today, after being relegated to the brink of obscurity, there appears to be a revival of public interest in the sport . . . in the roaring road that is packed with a million thrills and dusty with disaster . . . out of which comes profit and glory for drivers and promoters, satisfaction for enthusiasts and a certain degree of progress for the automotive industry, as a whole.

The speedway — market-place for speed and daring—has attracted bigger crowds, made more money and played in a greater number of localities during the past year than at almost any time in its long history.

Here are some of the high-spots that mark the revival of racing enthusiasm, all of which are a part of a program that will pay well over \$500,000 in prize money alone, during 1936.

The Indianapolis Motor Speedway welcomed the biggest gate in its history on Memorial Day of this year—some 175,000 speed enthusiasts.

The Contest Board of the American Automobile Association estimates that the total attendance at AAA-sponsored meets will be more than a million. This, despite the fact that no racing has been sanctioned on the Pacific Coast this year.

Midget racing experts claim that five million people witnessed the "roaring runs" in 1935, and that sport is definitely on the upturn, particularly in the East.

Indianapolis, which has been the pivotal point around which all racing has sped since 1911, will have two counterparts by the end of 1936. One

in the East and another on the Pacific Coast, giving America three major speedways for international competition.

Road racing will be revived on a "made to measure" course, the Roosevelt Raceway, a four-mile track recently completed at Westbury, L. I. There America will witness the rebirth of the Vanderbilt Cup Races, in

a 300-mile event, Columbus Day, October 12, while the Los Angeles Raceway will bring back big-time racing to the West Coast, with a 500-mile national championship event, November 29.

The Pike's Peak Hill Climb was revived on Labor Day, after a year's idleness. Louis Unser repeated his 1934 victory although he failed to break



his own record for the 12-mile dash.

Early this year a 250-mile stock car Beach and Road race was held at Daytona Beach, Fla. There is every indication that the event will be repeated again next year, although there is some discussion of transferring the locale to Tampa, Fla.

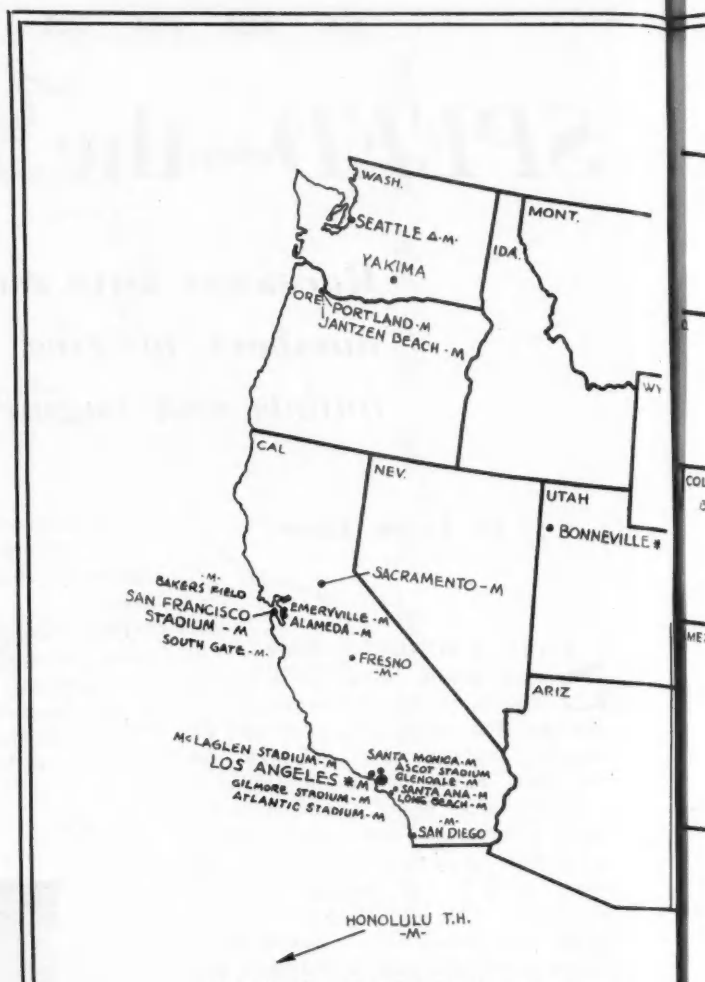
On the salt flats at Bonneville, Utah, there is virtually a "continuous show" of speed. Out where high-powered cars thunder day and night and let records fall where they may, Captain George Eyston, Ab Jenkins and John Cobb have followed one another with such rapidity as to give any one attempting to score their progress a genuine case of the "blind staggers." Speed and endurance records from one hour to forty-eight have been changing over-night and again there's always the possibility that someone may take a crack at Sir Malcolm Campbell's 301.1292 m.p.h. on the measured mile at Bonneville.

Amateur activities, particularly those of the Automobile Racing Drivers Association of America, have been stimulated by an apparent increase of interest in racing as a sport.

And midjet racing, probably the focal point of the greatest number of speed enthusiasts, continues to boom. These small cars have multiplied like guppies and speed saucers have sprung

so conceived, has, since its introduction in the United States, April, 1900, served a manifold purpose. Originally, it was used as a merchandising force, a means to exploit the speed and performance of motor vehicles to those who had never seen a car travel 40 miles an hour.

Today the outlook is different. Automobile manufacturers have resolved to eliminate all references to high speeds in their advertising and publicity; they have their own proving grounds for performance tests thus eliminating, to a great extent, one of the original func-



Speed-minded America from ocean to ocean can satisfy its appetite for thrills



"Wild Bill" Cassidy takes a "flying leap." Dirt track racing offers more of the "Roman holiday" element and draws crowds proportionate to the daring of the contestants

up like miniature golf courses.

All in all, when the final turnstile has clicked on the last patron of automobile racing for the year of 1936, the total attendance figure will rest somewhere between seven-and-one-half and ten millions.

#### For Progress and the Payoff

Automobile racing, born of the industry itself, and the only major sport

tions of the speedway. This much can be said, however. Parts and equipment manufacturers still find automobile racing to be a gruelling test-bench for their products and their continued support is not only praiseworthy but extremely practical.

The speedway has always been a proving ground—racing, always a test. Not only the test of one car against the field, but the test of every mechan-

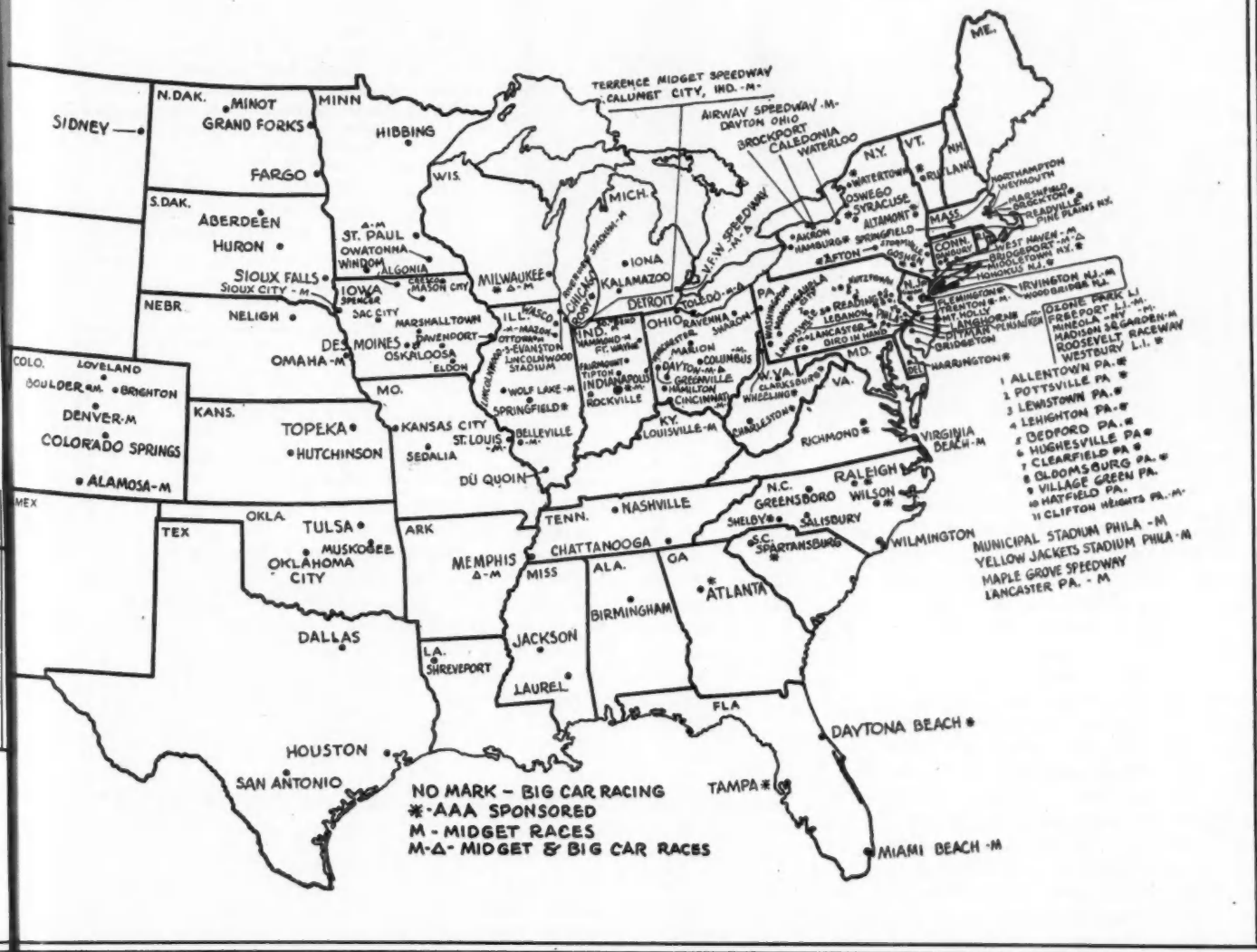
ism, every part and every principle of design against the circumstance of high speed. Moreover, it is the test of man's strength, perseverance, mental alertness and physical stamina in a sport where misfortune oftentimes awaits the unwary.

And then there is the payoff. That's why a promoter puts on a good show, why a racing car owner invests thousands of dollars and why a driver subjects himself to the dangers of the sport but the public gets its money's worth or it wouldn't come back for more.

#### Vanderbilt Cup Revival

Current headliner of the sport is the coming revival of road racing in America with the running of a 300-mile event on the specially constructed course at Roosevelt Raceway, Westbury, L. I., Columbus Day. This event has attracted world-wide attention in that no less than a dozen European





drivers have entered the competition with top-flight American racing men. It is sponsored as the rebirth of the Vanderbilt cup races and was originally scheduled as a 400-mile race, only to be shortened to 300 miles, a week before the race. The change was made with the idea that a shorter distance might make a more interesting race, permitting drivers to complete the difficult course without relief.

The famous old Vanderbilt trophy, last raced for in 1916, has its modern replica in the silver cup donated by George Vanderbilt, nephew of William K. Vanderbilt.

The Roosevelt Raceway is the first specially-constructed road racing course in America and typifies what many believe will be the dominant type of road racing course of the future. Not only has this movement brought road racing into prominence once again, it has also brought to the East a big-time racing center, something

it has lacked for almost a decade.

The course is four miles in length, with sixteen flat turns, two of 270 degrees, four of 180 degrees. The shortest radius turn is 140 feet and the largest is 330 feet. The main straightaway is 3775 feet while the back stretches double back three times, with every turn in sight of all stands. There's room for 150,000 spectators in the stands and infield.

The track is hard surfaced, being a composition of sand, gravel and oil of asphalt. The narrowest portion is sixty feet in width, widening to one

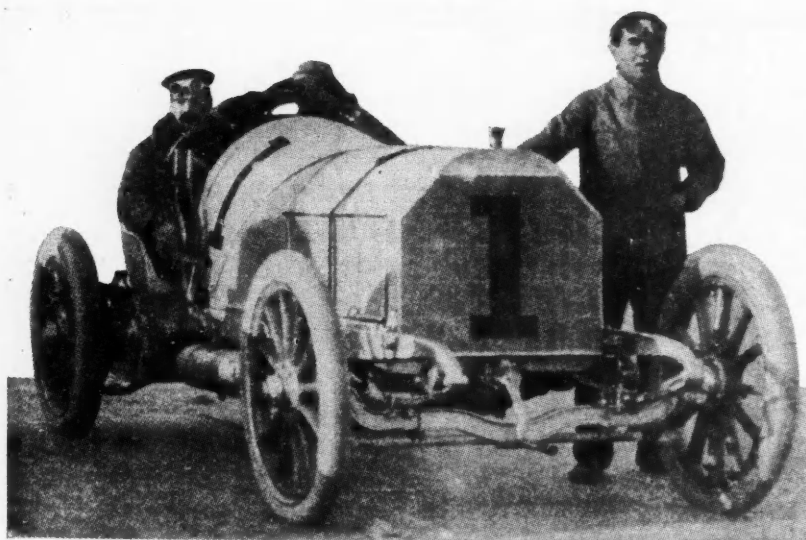
hundred feet where drivers need a broad swing to negotiate the more difficult turns.

Safety spillways are constructed at the turns into which a driver can go if he sees that he cannot make the turn successfully.

Limitations are fewer for the Roosevelt Raceway event than at Indianapolis. Both single-seaters and two-man cars are eligible. There are no limitations on the amount of gasoline and oil used, nor regarding the weights of the cars and the use of superchargers is permitted.

**"THE** chariots shall rage in the streets, they shall jostle one against another in the broad ways: they shall seem like torches, they shall run like the lightnings."

—NAHUM 2:4.



George Vanderbilt, who is offering the trophy for the Roosevelt Raceway on October 12, is a nephew of William K. Vanderbilt, an early enthusiast and sponsor of the Vanderbilt Cup Races. Here is W. K. in one of his chain-driven speedsters of yesteryear

The starting field will consist of 36 cars, although the course is constructed to accommodate 45 automobiles and there is a proviso in the AAA-sanction which permits Raceway officials to increase the field to 45 before the day of the race.

Entrants are to qualify by driving the course five times for a total of twenty miles. Drivers will be required to make one pit stop during the race. This required stop must be made between the fortieth and the sixtieth laps. During the pit stop, the car must remain in the pit at least one minute at which time the Technical Committee will inspect the machine.

Roosevelt Raceway officials believe that their speedway will provide America with its second great outdoor laboratory, giving cars the crucible test of acceleration, deceleration, braking, steering and other mechanical tests, under every-day conditions.

The field will include many internationally known drivers—leaders in both American and European competition. Ted Horn, Babe Stapp, Bill Cummings and others head the parade of American drivers, while among the European contingent are: The Alfa Romeo team; Tazio Nuvolari, winner of the Penya Rhin Classic in Germany this year, Count Antonio Brivio; Dr. Guiseppe Farina, Raymond Sommer and a reserve driver, Carlo Pintacuda, who won the Gavea Circuit at Rio De Janeiro, Brazil recently; The Bugatti team; Jean Pierre Wimille and Hon. Brian Lewis; The Maserati team; Philippe Etancelin; Freddy McEvoy and Ralph Bethenod; The Era team; Prince Bira, Lord Howe and Pat Fairfield.

American sportsmen have shown their interest in the revived sport. Henry J. "Bob" Topping, millionaire

sportsman of Round Hill, Greenwich, Conn., has entered a specially built car, the "Topping Special" which Babe Stapp will drive. Joel Thorne, son of a New York banker, has entered seven cars in the coming event. One car will probably be driven by Thorne himself.

The track was designed by Mark Linenthal who built the Suffolk Downs and Narragansett Park horse racing tracks. The speedway will cost nearly \$1,000,000 when all work is completed. George P. Marshall, wealthy sportsman, is president of the Motor Developments Corps., which is backing the Roosevelt Raceway. Major George Robertson, the first American to win the Vanderbilt Trophy race in 1908, is general manager of the speedway.

In addition to the Vanderbilt Cup there will be \$60,000 in prizes awarded with additional accessory and lap prizes which approximate \$25,000 more.

An interesting sidelight on the coming event will be the curtain raiser which will take place before the race, probably during one of the time trial days. Major Robertson plans to reenact one of the old time Vanderbilt

### Vanderbilt Cup Races

Date	Place	Driver	Car	Distance	M.P.H.
Oct., 1904	Long Island, N. Y.	Heath	Panhard	284.4	52.2
Oct., 1905	Long Island, N. Y.	Hemery	Darracq	283	61.49
Oct., 1906	Long Island, N. Y.	Wagner	Darracq	297	61.43
Oct., 1908	Long Island, N. Y.	Robertson	Locomobile	258.06	64.38
Oct., 1909	Long Island, N. Y.	Grant	Alco	278.08	62.77
Oct., 1910	Long Island, N. Y.	Grant	Alco	278.08	65.18
Nov., 1911	Savannah, Ga.	Mulford	Lozier	291.38	74.07
Oct., 1912	Milwaukee, Wis.	DePalma	Mercedes	299.54	68.97
Feb., 1914	Santa Monica, Calif.	DePalma	Mercedes	403.248	75.49
Mar., 1915	San Francisco, Calif.	Resta	Peugeot	300.3	67.2
Nov., 1916	Santa Monica, Calif.	Resta	Peugeot	294.03	86.90

contests, in which he will drive the Locomobile with which he won the cup in 1908. About a dozen old pleasure cars have been loaned the Raceway and will be lined up for the old-timers' competition. Many a famous racer of



Lou Meyer  
the only three time winner of the annual Memorial Day Race at Indianapolis



the days gone by will draw for his choice of racing car and the revival of road racing will become an actuality.

### Construction at Los Angeles

Another \$60,000 purse is to be dangled before racing car drivers of both this country and Europe when the Los Angeles Raceway is completed near Long Beach, Calif., and the green flag drops on November 29, the Sunday after Thanksgiving Day.

Sanction has been granted for a 500-mile sweepstakes over the three-mile course, similar in design to the famous Indianapolis oval. The only difference is that the back stretch bends once to a short straightaway then returns to the back stretch, breaking what would otherwise be a complete oval track. The track will be a flat, paved course ranging from 70 to 90 feet in width.



**Tazio Nuvolari**

an outstanding European driver, and captain of the Italian team entered at the Roosevelt Raceway. He was winner of the Penya Rhin classic this year in Germany

For the first race, provisions will be made to handle 125,000 spectators of which 50,000 will occupy the several grandstands along the homestretch. Art Pillsbury is the designer of the Los Angeles Raceway. He planned the old Beverly Hills Speedway in California which started the boom of board speedways many years ago. The managing director of the new race track is Zack J. Farmer, who is responsible for the success of the recent San Diego Exposition and who managed the Olympic Games at Los Angeles in 1932. On the board of directors is a number of well-known West Coast business men.

Mechanical specifications of cars entered at the Roosevelt Raceway are



**George Robertson**

is general manager of the Roosevelt Raceway and in 1908 was the first American driver to win the Vanderbilt Cup. This view shows him in the Simplex with which he defeated De Palma for the championship twice in 1909

expected to be similar for cars entering the Los Angeles event, making it possible for entrants to drive the same cars in both races.

With these events, and with others planned, American speed fans will be treated to possibly five big-time sweepstakes each year. Roosevelt Raceway on Columbus Day, Los Angeles Raceway, November 29, and a follow-up at the same track on Washington's Birthday, 1937. Then the Memorial Day Classic at Indianapolis which will be followed by another proposed speed presentation in June, 1937, at Roosevelt Raceway. Altogether, prize money for these events should total in the neighborhood of \$500,000—a real prize for the workers in the "industry's testing laboratories."

### Indianapolis—Speed Center

Indianapolis wrote a glamorous page in the history of automobile racing this year, exactly a quarter century after Ray Harroun won the first classic. One hundred-and-seventy-five thousand people, the greatest crowd to witness any American sports event, turned out to see Louie Meyer become the first man to win the Indianapolis race three times.

When Kelly Petillo, with a gasoline allowance of forty-two-and-a-half gallons, established a new speedway mark of 106.240 m.p.h. in 1935, it was seriously doubted that his record would be altered this year, particularly in the face of a gasoline "drought" imposed on drivers when the fuel allowance was reduced to thirty-seven-and-a-half gallons. Despite this smaller allowance, not only Meyer but four other drivers broke the existing track record. Meyer's 109.069 m.p.h. is the new Indianapolis record, of course. The

other four drivers were Ted Horn, Doc MacKenzie (relieved by Kelly Petillo), Mauri Rose and Chester Miller.

Safety proved to be an outstanding accomplishment at the Memorial Day Classic this year for there were no deaths and only one mishap of serious consequence—Al Miller's broken leg. This is a tribute to the speedway management for improvements made on the track and to the ever-watchful Contest Board of the A.A.A., which has borne its own safety crusade at the race track since it became governing body of the sport in 1904.

The establishment of three major tracks and the addition of two national championship events will have a very important bearing on the crowning of national racing champion this year.

In recent years, the winner at Indianapolis garnered sufficient points at the Classic to practically guarantee his winning the national crown for that year.

A recent announcement by the Contest Board of the A.A.A. changed the points-per-mile system in the National Championship rating. A uniform allotment for all Grand Prix type events, such as the George Vanderbilt Cup Classic and the Indianapolis Classic, has been announced. Under the new set-up, the winner of the Roosevelt Raceway event will receive 1000 points and other finishers down to twelfth place will be credited on a graduated scale. Up to this time, points have been awarded according to mileage of the race, but the new scale credits a like number of points for the 300-mile road race on Columbus Day and the 500 miles at Indianapolis. The change has been made retroactive to



"The service that the speedway renders will continue indefinitely to command the interest of the public at large." Captain Eddie Rickenbacker. This picture was taken while Eddie kept them out in front

the Indianapolis Race of May 30, 1936.

Just prior to the Roosevelt Race, it was reported that Louis Meyer, leader in championship race by virtue of his Indianapolis victory, was not expected to drive on Columbus Day. If such is the case, any of the other Indianapolis finishers has an opportunity to gain sufficient points to top Meyer for the national championship.

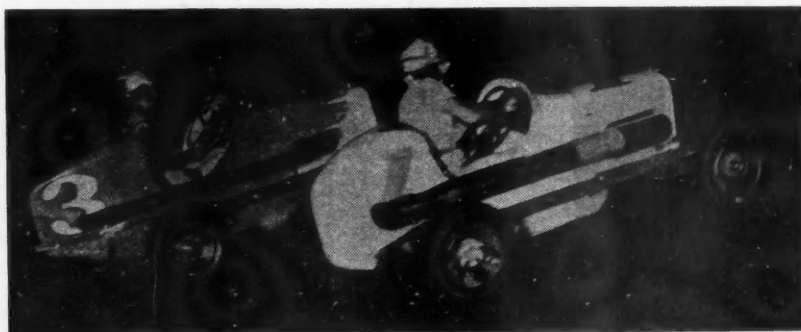
### Knights of the Dust Storms

The satellites in the racing constellation are the dirt track speedways, of which there are many. A recent investigation showed that dirt track races have been held or are scheduled to be held in more than 130 cities and towns throughout the East and Middle West. Races are scheduled at many of these places two or three times a season and in some of the bigger cities even more frequently than that.

In the interest of sportsmanship, safety and competent supervision, the Contest Board of the American Auto-

mobile Association issues sanctions for dirt track races. This year the Board has issued approximately seventy-five okays. This figure is considerably less than that of 1935, but it must be considered that no sanctions have been granted for dirt track racing on the Pacific Coast in recent months.

Independent of AAA sanctions are



Midget racing tracks have sprung up almost overnight during the last few years, particularly in the East.

other groups striving to promote the sport. Chief among these are the International Motor Contest Association, Des Moines, Iowa, and the Central States Racing Association, Dayton, Ohio and others.

Promoters, sanctioned and unsanctioned, generally operate on a circuit made up of speedways which they either own, control or lease temporarily. At these tracks they put on a speed show three or four times during the summer months, beginning in the South in early spring and working toward the North and Central states in the warmer months. In addition to this, automobile races are held at country fairs in almost every state in the Union. The lure of the speedway is becoming more and more the main attraction at these harvest-time festivals.

### Roosevelt Raceway Entries

Car No.	Make	Entered by	Driver	No. of Cyl.	Bore	Stroke	Displacement	Drive	Weight	Super-charger
	Alfa Romeo	Societa Anonima	Tazio Nuvolari	12	2.756	3.464	246.4	F	1650	Yes
	Alfa Romeo	"Scuderia Ferrari"	Giuseppe Farina	12	2.756	3.464	246.4	F	1650	Yes
	Alfa Romeo		Antonio Brivio	12	2.756	3.464	246.4	F	1650	Yes
	Alfa Romeo	Raymond Sommer	Raymond Sommer	8	2.834	3.937	195.2	R	1608	Yes
	Maserati	Philippe Etancelin	Philippe Etancelin	8			292.8	R	1650	Yes
	Maserati	Freddy McEvoy	Freddy McEvoy	6			91.5	R	1320	Yes
	Maserati	Raph. Bethenod	Raph. Bethenod	8			292.8	R	1650	Yes
	Bugatti	Bugatti	Jean Pierce Wimille	8			286.7	R	1630	Yes
	Bugatti	Hon. Brian E. Lewis	Hon. Brian E. Lewis	8	2.835	3.937	198.7	R	1450	Yes
	ERA	Earl Howe	Earl Howe	6	2.247	3.750	89.2	R	1350	Yes
	ERA	P. G. Fairfield	P. G. Fairfield	6	2.247	3.750	89.2	R	1350	Yes
	ERA	Prince Chula of Siam	B. Bira	6	2.263	3.744	90.7	R	1400	Yes
	Maserati	Maj. A. T. G. Gardner	Major Gardner	4	2.716	3.937	91.2	R	1200	Yes
	Du Pont	Theo. H. Morris, 3rd	Theo. H. Morris, 3rd	8	3.375	4.500	322.0	R	3000	No
	Bugatti	Overton A. Phillips	Overton A. Phillips	8	2.375	3.937	143.0	R	1800	Yes
4	Miller	James M. Winn	Frank Wearne	4	4.250	4.500	255.0	R	1840	No
5	Miller	James M. Winn	Billy Winn	4	4.250	4.500	255.0	R	1840	No
157	Unnamed	Milt Marion	Milt Marion	4	4.125	4.125	220.0	R	1900	No
6	Gardner Special	Chester L. Gardner	Unamed	4	4.250	4.500	255.0	R	1900	No
62	Miller Special	Chester L. Gardner	Chet. Gardner	4	4.125	4.250	227.0	R	1450	No
	Topping Special	Henry J. Topping, Jr.	Babe Stapp	8				R	1800	Yes
2	Boyle Products Spec.	H. C. Henning	Bill Cummings	8	3.375	3.750	268.0	R	2000	No
	Burd Piston Ring Spec.	Lou Moore	Lou Moore	4	4.312	4.625	270.0	R	1575	No
3	Gilmore Special	W. Wilbur Shaw	Wilbur Shaw	4	4.250	4.500	255.0	R	1800	No
15	Unnamed	Deacon Litz	Deacon Litz	4	4.125	4.250	220.0	R	1830	No
47	Unnamed	Wm. "Shorty" Cantlon	"Shorty" Cantlon	4	4.062	4.750	247.0	R	1800	No
7	Unnamed	Wm. S. White	Geo. Connor	4	4.125	4.625	247.0	R	1800	No
	Unnamed	Dan F. Hogan	Dan Hogan	4	3.062	3.500	104.0	R	1100	No
215	Schallnam Special	Virgil Williams	B. Balus	8	2.875	5.000	252.0	R	1950	No
43	Belanger Miller Spec.	Murrell Belanger	Unamed	8	3.250	3.750	246.5	R	1950	No
38	Marks Miller Special	Joe Marks	Unamed	4	4.250	4.500	255.0	R	1950	No
	D and N Special	Nickolas Strome	Don Moore	4	4.250	6.000	340.0	R	1680	No
	Oak Hill Garage Spec.	L. R. Ladd	L. R. Ladd	8	3.062	3.750	221.0	R	1540	No
	Duesenberg	Benny Brandon	Benny Brandon	8	2.875	5.000	269.0	R	2250	No
	Halley Bugatti Spec.	McClure Halley	Dave Evans	8	2.362	3.937	142.0	R	1350	Yes
179	Ambler Special	R. B. Lynch	Roy Lake	4	4.724	5.118	359.0	R	1900	No
125	Ambler Special	William Watts	Chuck Tabor	4	4.724	5.118	359.0	R	1900	No
14	Elgin Piston Pin Spec.	Elgin Piston Pin Co.	Frank Briko	4	4.290	4.500	255.0	R	1900	No
	Unamed	Rick Decker	Rick Decker	8	2.762	3.500	172.0	R	1450	No
	Jr. Offenhauser Spec.	Ruth Rastelli	Bob Swanson	4	3.062	3.500	105.0	R	1150	No
	Miller Special	John L. Buckley	John Cabulas	4	4.250	4.125	235.0	R	1900	Yes
	Debaets Special	Michael Debaets	Unamed	6			245.0	R	1500	No
	Burd Piston Ring Spec.	Joe Lencki	Unamed	4	4.250	4.500	255.0	R	2000	No
	Mercedes	Michael Caruso	Bob Sall	4	2.750	5.125	122.0	R	1750	Yes
	Carew Special	John Campbell	Unamed	4	4.000	4.250	212.0	R	2011	No
	Amer. Twist Drill Spec.	C. Wagner-T. Nowiak	Unamed	8	3.062	4.250	250.0	R	1900	No
38	Unnamed	Joel Thorne	Joel Thorne	4	4.250	4.750	270.0	R	1850	No
23	Unnamed	Joel Thorne	Rus. Snowberger	4	4.125	4.250	255.0	R	1750	No
25	Unnamed	Joel Thorne	Floyd Davis	4	4.125	4.250	255.0	R	1750	No
39	Unnamed	Joel Thorne	Emil Andres	8	3.550	4.375	340.0	R	2300	No
22	Hartz Special	Harry Hartz	Ted Horn	8	2.875	3.500	182.0	R	1650	Yes
44	Unnamed	Leon Duray	Tony Gulotta	4	4.062	4.250	220.0			
42	Unnamed	Leon Duray	Tony Willman	4	4.062	4.250	220.0			
65	De Palma-Miller Spec.	Louis Kimmel	Henry Banks	8	2.750	3.750	179.0	R	1800	No
26	Unnamed	Phil Shafer	Phil Shafer	8	3.181	4.625	284.0	R	2450	No
43	Mid-West Red Lion Sp.	John Fell	Sidney Snider							

At the time AUTOMOTIVE INDUSTRIES went to press, the above table represented last-minute information covering the entrants and drivers, with their car specifications.

### The "Doodle Bug" Plague

Greatest gate attraction in present-day automobile racing is that of midget car competition.

The first midget race on record was run in San Francisco during the Panama-Pacific Exposition in 1915. Art Smith, a daredevil stunt flier performing at the fair used a two-cylinder motorcycle engine in a midget car, smaller than those now in use. He offered to race Barney Oldfield, so the story goes. Barney was to drive his regulation racing car. Barney laughed at the challenge, offered Art Smith a half-mile handicap. Smith won the event with Barney Oldfield about three quarters of a mile behind at the finish, old-timers relate.

No more is recorded of midget automobile racing until its revival at Sacramento, Calif., June 21, 1932. A handful of midgets were gathered together in a race promoted by Charles F. Curryer, old-time big car driver and promoter, now connected with the Oakland Speedway. Sensing the possibilities in midget racing, Curryer promoted such events at Sacramento, Tracy,



Modesto and Tulare—all in Northern California.

The sport spread to Los Angeles in 1933. In 1934 new tracks were built in Central and Northern California and now the sport has moved eastward to Chicago, New York and Philadelphia. Today, midget races are held in almost every state in the Union. Honolulu, T. H., has a regular weekly following of fans addicted to watching the performance of these small cars.

Just recently reports stated that the sport was about to be introduced in England. E. O. Spence, manager of the Belle Vue Speedway, Manchester, England, collected a fleet of American midget racing cars and shipped them home with the hope of introducing the sport to the hordes of British speed lovers.

A recent survey indicated that there are upward of fifty stadiums operating weekly, and in some instances twice a week, outdoors in summer and

promoter raises the ante . . . when one promoter accuses his competitor, via the loud speaker, of having the police swoop down and raid his show as a public nuisance, and throwing his crew of drivers in the lock-up . . . and there have been cases where drivers from one track drive at a forbidden competitor's speedway under assumed names . . . together with these are such practices as hippodroming, pre-selection of winners by promoters, faked match races, drivers' strikes, promoters' alleged dishonesty and a whole string of unfair, if not illegal practices. These are the pranks of automobile racing's youngster. All of which should be outgrown if the sport hopes to hold its enormous popularity with the public.

There are, of course, many well-organized midget racing speedways such as Madison Square Garden Bowl at New York, River View at Chicago, Walsh Stadium at St. Louis, San Francisco Stadium at San Francisco, Municipal Stadium at Philadelphia.

These and others are top-ranking midget speedways presenting first-class exhibitions of small car speed performances.

Particularly noteworthy, when estimating the power of midget racing as a gate attraction, is the incident at Philadelphia, June 9 of this year. Midget races were to be inaugurated by Ralph A. Hankinson, veteran speedway promoter, on that night. If there was any doubt as to Philadelphia's interest in the midget sport, it was dispelled when 53,600 people witnessed the opening event. That was the greatest crowd ever to witness a single midget racing program and, incidentally, the biggest gate that the Municipal Stadium had since Gene Tunney licked Jack Dempsey there in 1926.

### Amateur Interests

Contributing to the increased public interest in automobile racing are the amateur racing groups. Outstanding among these is the Automobile Racing Club of America, a group of young college men, owning their own cars and driving for the sport of it. Their prizes are but trophies.

For a couple of years this group held weekly road racing meets on the estate of a wealthy New Englander. Theirs are small cars, Fords, Austins, Willys and some of the smaller European cars. When, at last, the public pried its nose into the affairs of the amateurs, the young men were forced to leave the estate and plot a new course at the Marston's Mills Airport, near Boston. There the crowd followed them.

In 1935, the association decided to revive the "Climb to the Clouds" a hill



indoors in winter. Fifty is but a minimized estimate, for midget tracks have been increasing with the rapidity of Ellis Parker Butler's guinea pigs.

Last year there were 578 midget races held throughout the country. These were attended by some 5,000,000 who paid admissions totaling more than \$3,000,000.

Viewing the sport with a wide angle lens, midget racing provides plenty of action, thrills and spills, with few casualties. The sport is extremely popular in many centers, but what it holds in popularity it lacks in organization, direction and supervision.

Midget car performances are making the headlines when drivers and promoters argue over purses . . . when drivers wait until the stands are filled and then refuse to drive unless the

**Tough going through sand ruts at the 250 mile stock car Beach and Road Race held at Daytona Beach, March 8, 1936. Conquering the incoming tide and the churned-up sand, Milt Marion won the race.**

**The Indianapolis Track will have to share its glories with its younger brothers. This is a view of the 1936 classic there.**



climb up Mount Washington, at Glen House, N. H. The race was a success, John Reuter having established a 12 min. 59.2 record for the eight-mile climb. The race was repeated July 26 of this year, Langdon Quimby winning the event in 13 min. 25.2 sec.

When the summer resort of Alexandria Bay, N. Y., celebrated its Centennial during the week of August 3, the Automobile Racing Club staged a 75-mile road race through the streets of the village. The local Chamber of Commerce, police and fire departments cooperated with the racers and the event went off in great style. It was a handicap race won by John Marshall, Boston, driving an Austin. Second, in a M. G. Midget was Thomas Dewart, son of William T. Dewart, publisher of the New York *Sun* and Robert Heller, Cleveland Heights, Ohio, finished third in a Willys 77.

The group revived the Briarcliffe road races in the past two years.

### Sunday Afternoon Sport

At Village Green, Pennsylvania, the Village Green Amateur Racing Association holds its weekly meets, under the guidance of James Stark, founder, promoter and president.

The association has its own dirt track, a seven-tenths of a mile oval, plowed and scraped out of what might have been a cow pasture. Originally, it set out to be strictly an amateur association but restrictions are lax and

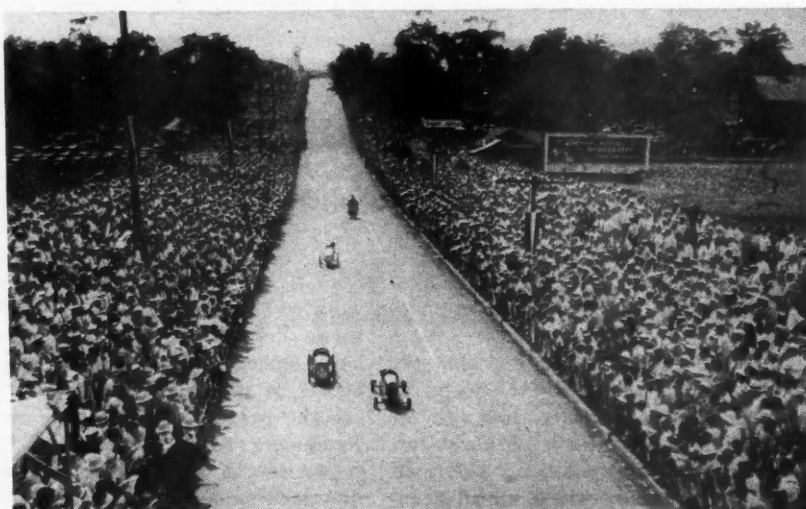
the field is opened to practically any one with a car and the urge to drive in competition.

This probably ranks as one of the lowliest tracks in the country—yet the color, the intense interest, the spirit of the men and the applause of the crowd is comparable to any big-time racing event.

At Village Green men build and race their own cars. Most of them work during the week and race on Sundays. Amateur and semi-professional drivers line up for time trials—a heterogeneous

collection of cars beginning with the stripped jalopy to the brightly painted, neatly finished creation of some embryonic automobile builder of the future. Recruited from many trades, these men are laborers, carpenters, salesmen, mechanics and garagemen—all with a yen for speed—all willing to begin at the beginning in an effort to overtake the phantom of fame and fortune, or possibly to be overtaken.

The contest is on—the race is run—and to the victor belongs twenty dollars, first prize!



Even the All-American Soap Box Derbies come in for a big share of public enthusiasm. 100,000 persons watched the derby finals at Akron, last August. Preliminary races attracted crowds in 116 other cities

## European Entries for Roosevelt and Los Angeles Raceways Differ from American Cars to Compete

EUROPEAN racing automobiles have been developed under an international formula limiting weight to 1650 lb. empty, with wheels but without tires. When this formula was adopted by the International Sporting Commission it was believed that the maximum weight limit would hold down piston displacement and reduce the speed of the cars. As a minimum width of 33.4 in. was required for the body, without any specification as to the number of seats, it was believed that this cross section would also have a limiting effect on speed.

Six years of racing under this formula have shown that the suppositions were false. The present racing cars built under the 1650-lb. rule have a greater piston displacement than ever, they are the fastest road racing cars the world has ever known, and they are the most costly productions in the

history of the automotive industry.

Three nations have built cars under this rule. They are Germany (Auto-Union and Mercedes); Italy (Alfa Romeo and Maserati) and France (Bugatti). England never has shown interest in this type of car. Despite their innumerable public appearances,

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By W. F. Bradley

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little is known technically regarding the characteristics of these cars. Mercedes and Auto-Union have refused to sell these cars and have guarded the mechanical features so closely that even the drivers knew very little con-

cerning the construction of their mounts. Alfa Romeo does all its racing through the Scuderia Ferrari, of Modena, Italy, and this organization only sells its racing cars when they have been replaced by later and improved models. The Alfa Romeos in the hands of private owners are therefore more or less out of date models. Maserati has sold a limited number of his 1650-lb. models, but owing to the cost of production, very few of these cars have been produced. Cost has also held back Bugatti, whose only car built specially to fit the 1650-lb. rule is the one being brought to America by Wimille.

Under the 91-cu. in. rule the weight of cars in road racing trim was between 1750 and 1800 lb. With the weight held down to 1650 lb., piston displacement has gone up to more than 6 litres (366 cu. in.) and maximum speed, of-

ficially controlled, is close to 195 m.p.h.

The most advanced cars are the Auto-Unions designed by Doctor Porsche. These are rear-engine rear-drive 16-cylinder jobs of 75 by 85 mm. bore and stroke (366 cu. in.) developing 550 h.p. When they first made their appearance in the French Grand Prix two years ago, they all went out with minor troubles, but it was realized that these cars were a marked advance on anything in existence, and this year they proved their value by winning the great majority of races in which they were entered and by establishing an international class record for 5 kilometres at 194.13 m.p.h.

Doctor Porsche has performed the task, considered impossible a few years ago, of producing a racing car of 1650 lb. weight with an engine of more than 6 litres piston displacement. This has been accomplished by design and by the use of light, costly alloys—by an alliance of aviation and automobile practice. The engine has a light-alloy cylinder casting, liners, two overhead camshafts, and a displacement type blower mounted vertically at the rear. The frame members are tubular, the body is built on the lines of an airplane fuselage, the longitudinal members of which are used to carry water from the front radiator to the rear engine. With all the mechanism at the rear of the driver, there is no difficulty in getting an exceedingly low-built car, thus nullifying the effect of the minimum width rule. Independent torsion-bar suspension is used throughout on the latest models, although when first produced these cars had a broad transverse spring at the rear.

Mercedes is more orthodox in design, with a straight-eight engine having steel cylinders and welded steel jackets,

the piston displacement probably being in the neighborhood of 250 cu. in. The engine has two overhead camshafts, timing gear at the rear, and a vertical displacement-type blower in front, delivering air under pressure to a couple of duplicate carbureters.

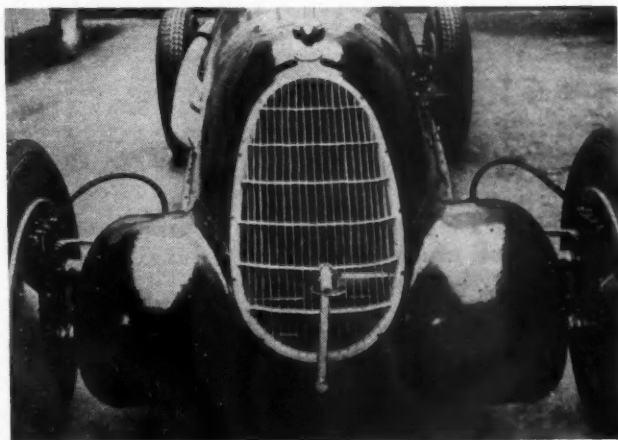
Suspension is independent all round, use being made of coil springs contained in a transverse tube for the front, and of a broad transverse spring at the rear. The four-speed transmission is combined with the differential and is attached to tubular cross frame members.

The evolution of Alfa Romeo design can be traced in the different cars sent to Roosevelt Raceway. The "monoposto" to be driven by Sommer has a straight-eight engine of about 190 cu. in., the transmission combined with the

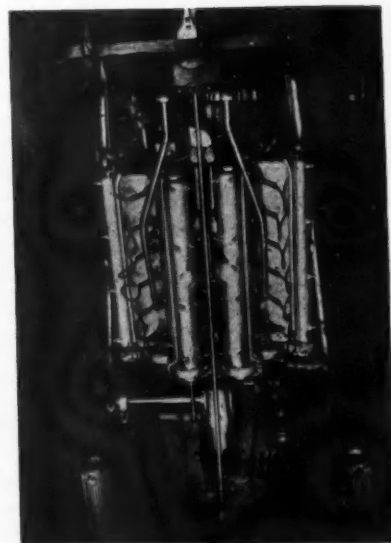
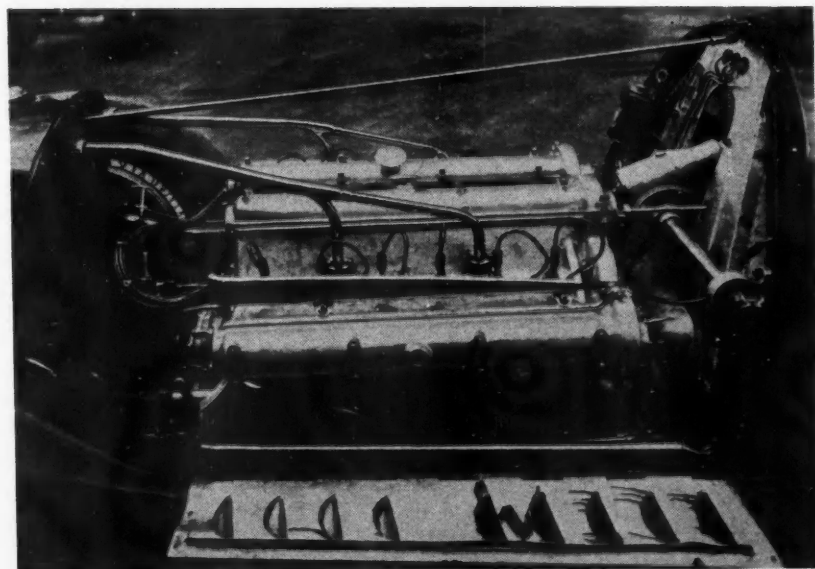
engine and two diagonal drive shafts, allowing the driver to be seated low in the angle formed by the two shafts. Springs are semi-elliptic all round.

The three cars sent over by the Scuderia Ferrari, and designed by Engineer Jano, are 12-cylinder models of 250 cu. in. piston displacement, having independent suspension front and rear and the transmission combined with the rear axle. These three cars, to be driven by Nuvolari, Brivio and Farina, have been remarkably successful in this year's racing and have never been beaten except by Auto Union and Mercedes. Probably one of the straight-eight jobs will be brought over for practice and as a reserve car.

The features of the 12-cylinder Alfa Romeos are cylinder blocks in Duralfa alloy, two overhead camshafts per



(Above) The straight-eight Alfa Romeo entered at the Roosevelt Raceway has independent suspension



Two views of the 12-cylinder Alfa-Romeo. The right view showing the compressor, magneto in front and central steering



## Foreign Cars on American Tracks

Driver	Engine	Transmis.	Suspension
T. Nuvolari Count Brivio Dr. Farina	Alfa Romeo 12-cyl. supercharged, 250 cu. in.	4-speed, on rear axle	Independent front, rear; hydraulic and coil springs front, semi-ellip- tics rear
R. Sommer	Alfa Romeo straight eight, super- charged, 201 cu. in.	4-speed, engine unit	Rigid axles; 2 di- agonal drive shafts
P. Etancelin Raph	Maserati V - eight, supercharged, 258 cu. in.	4-speed, on rear axle	Independent front, rear; torsion bars front; semi-ellip- tics rear
Wimille	Bugatti straight eight, 285 cu. in., supercharged.	4-speed, engine unit	Front axle divided, flexibly united; rigid axle rear, ¼ elliptic springs
B. Lewis	Bugatti straight eight, 201 cu. in., supercharged.	4-speed, engine unit	Rigid axles front, rear; ½ elliptics front, ¼ elliptics rear
Lord Howe Fairfield	E.R.A. six-cylinder, 91.5 cu. in., super- charged.	4-speed, engine unit	Rigid axles front, rear; ½ elliptics front, rear
Gardener	Maserati six-cylin- der, 91.5 cu. in., supercharged.	4-speed, engine unit	Independent sus- pension front, rigid axle rear; torsion bars front, ½ elliptics rear

cylinder block, with valves seating direct on the alloy metal, timing gear at the rear, a Roots-type blower in front, and magneto in front. The power developed is in excess of 400 h.p. In the case of the eight-cylinder model the timing gear is in the centre and the crankshaft is in two parts, assembled by flasks. Plain bearings are used throughout, and lubrication is by means of a feed pump and a scavenger pump, the oil being passed through aviation-type coolers on the side of the frame.

The four-speed transmission has been removed to the rear axle, and although two semi-elliptic springs are used, the driving wheels are independent. At the front end the independent suspension is really a development of the Dubonnet type, but without the axle originally made use of on some of the Alfa Romeos. The steering is centrally mounted, for although the bodies are two-man width, the cars never race with a mechanic aboard.

Philippe Etancelin is racing with one of the 1936 V-8 Maseratis equipped with a 90 deg. V-8 engine of 4244 cc. (258 cu. in.), weighing 430 lb., and giving 400 h.p. at 5500 r.p.m. The cylinder blocks, which are interchangeable, are in steel, with two overhead camshafts for each and two valves per cylinder. Tubular rods are used, timing gear is at the rear, and lubrication is high pressure, with a feed and a scavenger pump.

The front wheels are independently sprung by means of torsion bars, and there is direct control of each front wheel, without the use of a transverse tie rod. Examined externally, the rear suspension appears to be of the normal

type, for semi-elliptic springs are used. In reality the driving wheels are independently sprung, for the four speed transmission and the differential are mounted on the chassis, with spherical joints for the drive shafts.

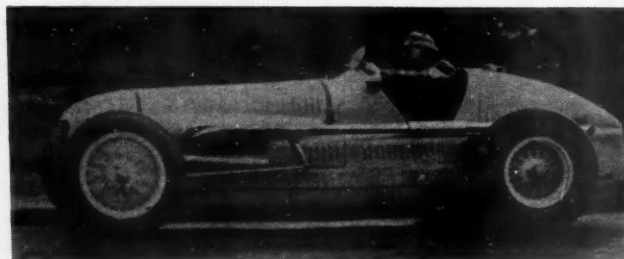
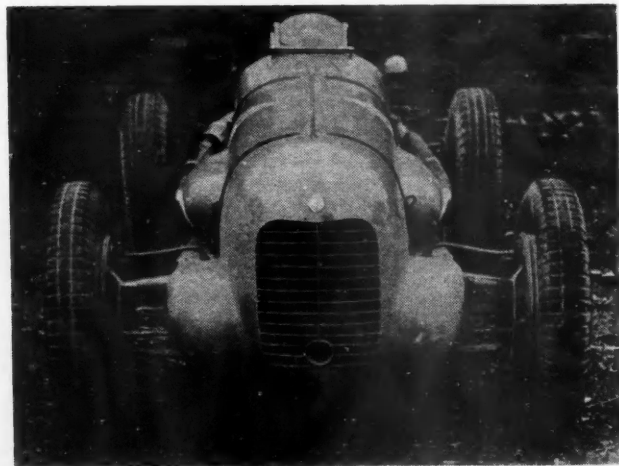
The rear transmission has the advantage of allowing the driver to be seated low and of reducing the height of the car, the maximum height being 35 inch. Weight without tires is 1620 lb., while in full racing equipment, with tanks full and driver aboard, the weight is 2420 lb., giving a ratio of 4.05 lb. per horsepower on the one hand and 6.05 on the other.

In addition to the cars built under the international formula, several 91 cu. in. jobs will race on Roosevelt Raceway. These compromise the English E.R.A.'s and the Italian Maseratis. They are of less advanced design than the bigger cars, but are interesting as examples of the type of car developed under European road-racing conditions.

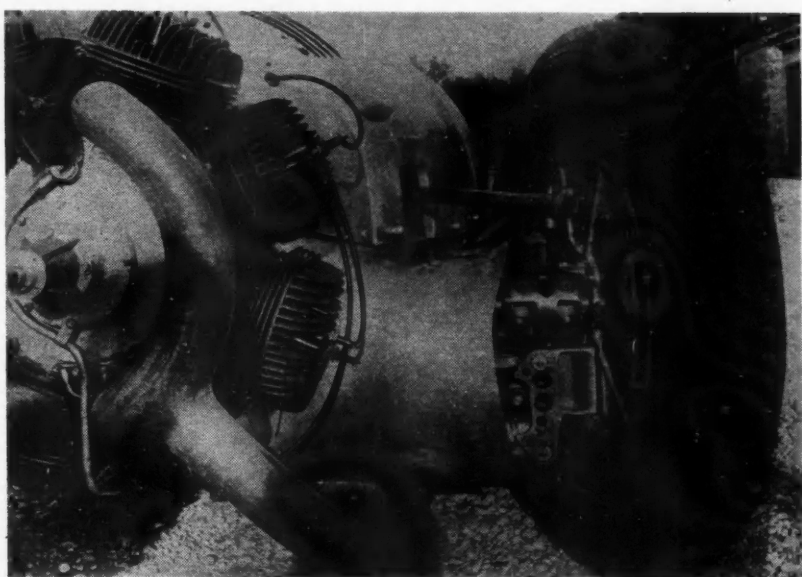
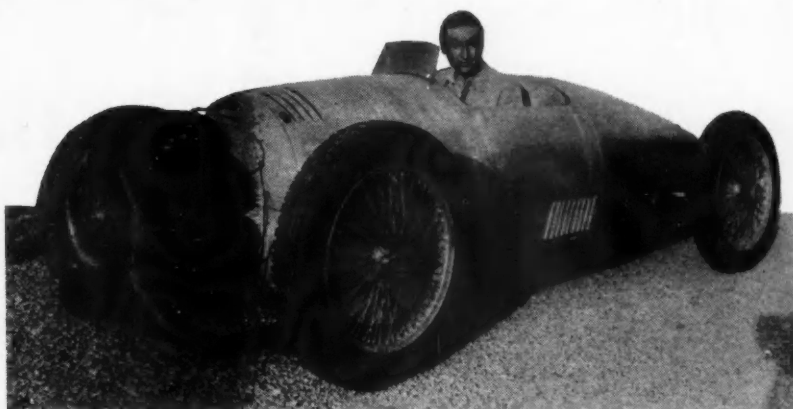
Little is known of the new 4700 cc. Bugatti with which Wimille will represent the French firm. The engine is declared to give 400 hp. Independent suspension is not employed, but the front axle is cut in two and the halves are flexibly united, thus allowing of a slight relative movement.

Built for road racing conditions, the European cars have many points in common which differentiate them from American track cars. Rapid acceleration and deceleration are more essen-

Below is Philippe Etancelin in his V-8 Maserati. At the right can be seen the torsion bar suspension and ventilated brakes



Count Trossi in his special 8-cylinder supercharger two-stroke front drive. Below is another view more in detail showing the suspension and ventilated brakes



tial than maximum speed. Thus we find a general use of the Roots-type blower, four-speed transmissions, and powerful brakes. The diameter of brake drums is limited only by the size of the wheels. All brakes are ventilated by means of an air scoop in front and an air release at the rear of the brake flask. Hydraulic control is used in nearly all cases. Bugatti has cast magnesium wheels, with wire spokes, wheel and drum forming one piece. Brake shoes are also quick detachable, without the use of tools, so that drums and shoes can be changed in a pit stop of one minute.

Wire spoke wheels with duralumin rims are used by Alfa Romeo and Maserati. In nearly all cases the fuel has an alcohol base. There being no limit on quantity, consumption is high, rarely being better than 4 miles to the gallon. Big-capacity tanks are carried in consequence, but in a 400-mile race there will be two pit stops for gas.

Although not coming to America and

not fitting into the 1650-lb. rule, the twin-engine Alfa Romeo is interesting as a European racing development. This car was produced in order to meet the German competition on very fast road circuits, such as the one at Tripoli, where the free for all rule was applied.

Built at the suggestion of Engineer Bazzi, who will have charge of the Ferrari team in the United States, the car has two eight-cylinder engines, each of 2905 cc., one being in front of and the other behind the driver. Each engine develops 270 h.p. at 5500 r.p.m., giving a total horsepower of 540 for a weight of 2880 lb. with tanks filled and driver aboard.

The engines follow lines of construction adopted by Alfa Romeo for several years, with Duralfa alloy cylinders in two blocks united by the central timing gear, the crankshaft in two parts, with two compressors mounted fore and aft on the left hand side, and oil pumps driven from the center.

The transmission is mounted on the

forward engine, and at right angles to the primary shaft of the three-speed transmission there is a longitudinal shaft uniting the two engines. The coupling to the flywheel is of the internal-gear type, and the transmission is by constant-mesh pinions. While the two engines are synchronized, they can be uncoupled for ease in starting up or in case of the breakdown of one of the units.

Some very clever work has been done in mounting the second engine in the tail of the car, where it takes the place of the usual fuel tanks. As a consequence the gasoline tanks are mounted longitudinally on the outside of the frame members. The front wheels are independently sprung by the Dubonnet system, while at the rear there is a system of independent suspension by the use of semi-elliptic springs. A single radiator mounted in front is used to cool the two engines.

Hydraulic brakes are used, with Duralfa drums and shoes lined with Ferodo. This car was successful on fast circuits, but in long-distance races tires were the limiting factor.

Count Trossi, founder of the Ferrari racing organization and until recently its financial backer, has produced a race car which, if brought to Roosevelt Raceway, will undoubtedly attract considerable attention. A seven-cylinder, radial, air-cooled, supercharged, two-stroke of about 366 cu. in. piston displacement, is made use of, and is mounted in front of a tapering circular-section chassis. The front wheels are both drivers and steerers, with torsion-bar suspension, while the rear wheels are naturally trailers, also with torsion-bar suspension.

The construction has the advantage of decreased weight and of very low height. Trossi is stated to have spent \$50,000 on the design and construction of this car, and although it has not competed in open races, it has given very promising results in trials and in record attempts.

# The Horizons of Business

By Joseph Stagg Lawrence

## Much Ado About Much

**T**HE charge that the New Deal is tainted with Communism, aired and broadcast by the aging but still vigorous Mr. Hearst, has met with a number of distinct responses. Mr. Roosevelt was sufficiently concerned to anticipate the Hearst charge with a White House denial. If added evidence is necessary that the charge scored a direct hit it is provided by the emphatic disclaimer uttered by the President in his address to the Democratic state convention at Syracuse. If the charge has no foundation the President and his supporters are making a prodigious but unnecessary rebuttal. In this connection it is well to bear in mind that people are far more irritated by deserved reflections than by criticism which has no warrant in the facts. The furious retort invariably confesses vulnerability and in this instance the charge of Communism seems to provoke a veritable froth of indignation at the White House.

### The Right

At the extreme right may be found earnest citizens who, like the pedagogue Wirth, have long since concluded that the braintrusters are the kept intellectuals of Moscow. The revelation that comrade Browder advises members in good standing of the Communist party that they may support Roosevelt without violating their party oath is merely supporting proof of the original suspicion.

### The Middle

In between may be found thousands of citizens who are not a little puzzled by the booming charge and counter-charge of the opposing parties. When Roosevelt says that he is not a Communist he is correct. When Hearst charges that Communists will support the President in the forthcoming election Hearst is right. The confusion is due to a failure to join a direct issue and also to fine but extremely important distinctions. Hearst has not charged that the President is a Communist. The President has not denied

that the Communists are supporting him. Neither have the Communists.

### Where the New Deal Comes In

The matter becomes somewhat clearer if we examine the objects of Communism and the means by which those objects are to be attained. Communism breeds upon social discontent. If the culture from which the effective virus of Communism may develop does not exist the radical evangelist does not hesitate to create it. What is this culture and where does the New Deal come in?

### The Guilt of the Successful

Communism preaches that capitalism is based upon exploitation, i. e., the use of human services by the privileged without adequate compensation. The failure to give the worker his just due enables the exploiter to retain for himself much more than he rightfully deserves. Since all value, in the theory of Communism, is created by labor any excess which the employer retains is taken from the hide of the worker. The wealth of the capitalist is simply the crystallized accumulations drained from the efforts of workers. The equitable title to this really belongs to the worker. It is for this reason that the Communist contemplates the confiscation of wealth without the faintest qualms of conscience. It is merely a tardy rendering of justice and not at all the larcenous seizure which the enemies of the proletariat represent it to be. It would seem therefore than an assault upon wealth even though carried on by a group and a leader who do not themselves profess the true faith is a step in the right direction. Some of these capitalists are tough birds and when their ill gotten gains are returned to the proletariat, raise an awful hue and cry. It is the part of good strategy to let some one else do the dirty work. The New Deal with its palpable discrimination against the well to do, its penalization of size and "smearing" of

the successful is doing one of the necessary preliminary jobs of Communism.

### Progressive Misery

The culture of Communism can develop adequate virulence only in the presence of widespread discontent. Numerically powerful social groups must be persuaded that they have been exploited, that their lot is wretched and that no patching of the existing social order can possibly remedy their condition. Karl Marx postulated the progressive misery of the working man, a result of his exploitation by the employer. It is this increasing wretchedness which ultimately generates the desperation, courage and violence necessary to uproot the old order. In a country that has more motor cars than all the rest of the world combined, which boasts of more than sixteen million home owners, a little less than four million farmers who own their farms, 123 million life insurance policies, 63 million bank accounts and from 12 to 15 million security owners, the task of the revolutionist is by no means simple.

Russia has enjoyed Communism for almost a generation. In Moscow a practicing physician gets \$8 a month. In this country any skilled worker can earn as much and more in a day. To persuade the latter to abandon what he has in order to attain the bliss of Communism requires eloquence, a heavy hand and the help of circumstances. Now if the established government proceeds to preach the doctrine of discontent the task of the social evangel is simplified. For three and a half years "the best voice in radio" has railed against the princes of privilege and drooled sympathy for the oppressed workingman. He has done a better job here than the Communists could possibly do. As long as he is doing such excellent preliminary spade work why bother about the authenticity of his faith?

### The Will to Shed Blood

In addition to blunting the conscience of the citizen against mass brigandry (Turn to page 497, please)



# Lincoln Zephyr



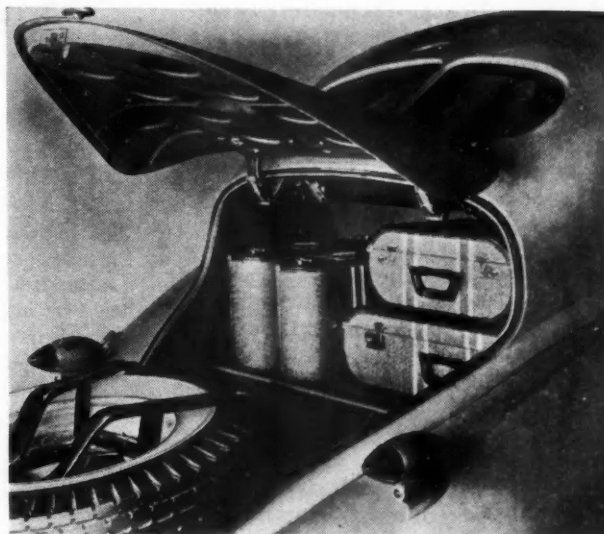
Lincoln Zephyr 1937 sedan model, showing improvement in front-end appearance.

**T**HE Lincoln Zephyr enters its second year basically unchanged, but smarter in outward appearance and improved in interior treatment. A few mechanical changes have been made also, most important among which are a rearrangement of the luggage compartment so it can be reached through the rear-deck hatch, and a new steering system.

The car remains of the all-steel welded bridge-truss type, without a separate chassis in the usual sense of the term. Front-axle and rear-axle assemblies are attached to the body itself. The transverse springs are mounted forward of the front, and back of the rear axle, and while the wheelbase is 122 in., the spring base is 133 in. Brakes are of the cable-controlled, mechanical type, and the spoked pressed steel wheels carry 7.00X 16-in. tires.

There are now horizontal strips of bright chromium on the sharp-nosed radiator grille, ornamenting it, and

Access to the luggage space is now through a rear-deck hatchway.



similar strips border the hood louvres. A body stripe is carried along the car from front to back below the belt line. Interior fittings are new. Seats are upholstered in a new pleated design, in either broadcloth or cord. Door treatment is in panel design, with narrow

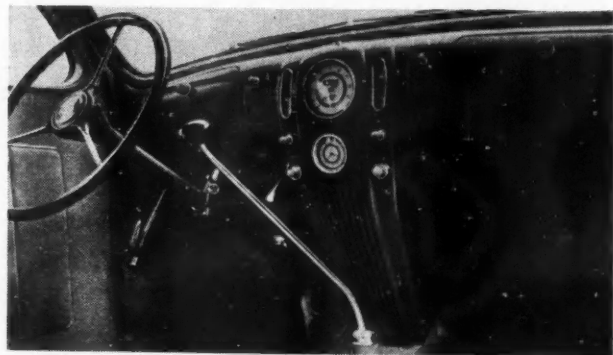
chromium strips bordering the pleated panels.

Probably the most striking feature of the interior is the instrument panel design, which includes an inclosed grille extending down to the top of the transmission and is intended to screen the installation of a car heater and a radio. Both the panel and the grille are finished in the body color. Garnish moldings have a wood grain.

Glove compartments are fitted at each end of the instrument panel. They flank the instrument group, which is centered about the middle of the panel and the top of the grille. In the middle of the panel is a 100-mile speedometer and below it in the top of the grille a large electric clock. Engine recording instruments are arranged in two vertical inset panels, one at each side of the two large dials.

(Turn to page 497, please)

Instrument panel of the 1937 Zephyr. The grille encloses the space reserved for a car heater and a radio.



## Evaluating Lubricating Oils

IN a paper presented to the Chemical Engineering Congress of the World Power Conference held in London some time ago, H. I. Waterman and J. J. Leendertse described a new method of evaluating the chemical composition of lubricating oils from their physical properties, the intention being to permit systematic investigation of the relationship between the chemical nature and the more important technical properties of the oil. Stated briefly, the method makes it possible to determine how many carbon atoms in mineral oil are present in the form of aromatic rings, naphthenic rings, and paraffinic chains. It is based on the use of the Lorentz-Lorents expression, for the molecular refraction of saturated hydrocarbons:

$$\frac{n^2 - 1}{n^2 + 2} \frac{m}{d}$$

In this expression  $n$  is the refractive index,  $m$  the molecular weight of the hydrocarbon, and  $d$  the density. It is possible to calculate the molecular refraction of a definite saturated hydrocarbon from the atomic refractions and the number of carbon and hydrogen atoms in the molecules. The value of the molecular refraction of a standard saturated hydrocarbon therefore indicates also its ultimate composition, as a change in the C/H ratio involves a change in the molecular refraction. This method covers the case of mixtures of saturated hydrocarbons, but as most commercial lubricating oils contain also aromatic hydrocarbons, it is necessary to eliminate the influence of the unsaturation. The aromatic content can be determined by ascertaining the aniline point (the separating temperature of equal volumes of oil and aniline) before and after hydrogenation. Hydrogenation is usually effected by heating the oil at 575 deg. F. in hydrogen under high pressure, with nickel or kieselguhr as a catalyst. By this method a Pennsylvania base lubricating oil was found by the authors to be composed of 7 per cent aromatic rings, 13 per cent naphthenic rings, and 80 per cent paraffinic chains.

### Aircraft Engines

Aircraft Engines: Theory, Analysis, Design and Operation, by Arthur B. Dornoske and Volney C. Finch, Professors of Mechanical Engineering, Stanford University. Published by John Wiley & Sons, Inc., New York, N. Y.

IT is a good many years since a textbook on aircraft engines has appeared in the United States, and in view of the rapid advancement in the design of such engines, particularly during the past decade, the appearance

of this work by Professors Dornoske and Finch is quite timely. It is intended primarily as a textbook for engineering courses, and the numerous problems given at the end of each chapter should prove a valuable feature in this connection. However, the collection of material, in handy form, on recent advances in aircraft engine practice should make it valuable also to those engaged in the production and operation of aircraft engines.

The book covers only the basic theory and principles of aircraft engines and does not go into details of design, being

intended as one of three volumes to be used as texts for a complete course on aircraft engines, the other two volumes covering design and engine dynamics respectively.

There are ten chapters in the volume, as follows: Chapter I, Introduction (Types of Engines, Trends in Design, Engine Characteristics); II, Basic Theory; III, Engine Cycles; IV, Petroleum Fuels and Their Explosive Reaction; V, Detonation and Anti-Detonants; VI, Combustion Processes in Aircraft Engines; VII, Thermal Efficiency; VIII, Supercharging; IX, Waste Heat and Cooling; X, Testing of Aircraft Engines.

The text is very readable and is well illustrated.

## Autothermic Type Piston

(Correction)

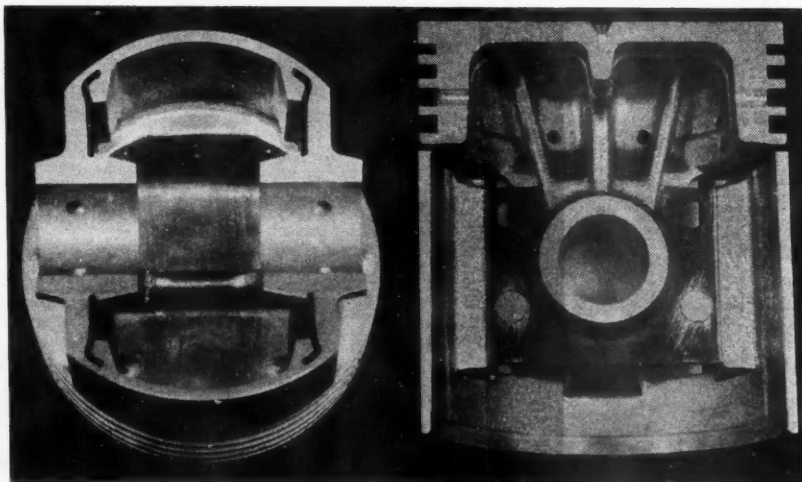
IN our description of the Autothermic type piston, it was stated that the steel inserts are paralleled by aluminum over their entire length, but the sectional illustrations accompanying the article did not bear out this statement, showing the steel paralleled by aluminum only over part of its length in one case. This was due to the fact that in the original blue print from which the drawing for the illustration was made, the section was not taken straight across the piston, but along a broken line. A corrected sectional view of the piston is shown herewith.

Also, in describing the method of machining up the master cam for turning the piston oval, the impression was

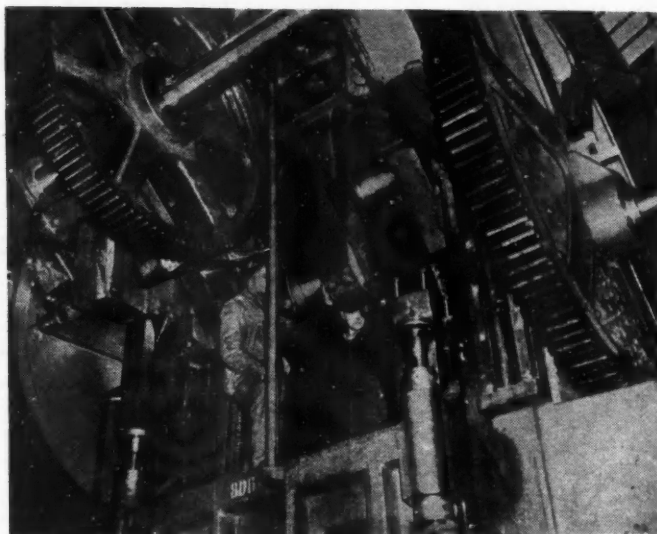
given that the work was mounted in the grinder and the wheel reciprocated by the eccentric. The actual arrangement is the other way around. The wheel rotates around a stationary axis and the work is reciprocated by means of the eccentric and the fixture illustrated.

### Higher Freight Rates Suspended

The Interstate Commerce Commission has ordered suspension until May 1, 1937, of increased rail rates on automobiles shipped for export through the ports of New Orleans, Halifax, N. S., and other points. A public hearing will be arranged on the contention of New York interests that rates on the old scale discriminated against the port of New York.



Cross section of Nelson Bohnalite Autothermic Type piston.



A view in the "Valley of the Giants" at the Dodge plant during recent revamping for production of 1937 models

## Production Lines

### It Stretches

A one-piece front fender, bigger, deeper, and with more turnunder at the front, is being produced for the coming season by a car manufacturer who introduced a similar design last year. This is easily one of the toughest metal stretching jobs that has ever been tackled. Its early production stages have been attended by the usual problems of cracked shells, torn edges, and edge wrinkles on the fenders that go through without tearing. However, by the time this item will have been published everything will be straightened out. Later in the season, visitors to the press shop will have nothing to marvel at, and will miss most of the drama and headaches that go with unusual developments.

### Sand Blasted

Pangborn, with the aid of one of the big foundries that has modernized once again for 1937 production, has installed the first of a new line of sand-blasting equipment for automatically cleaning large castings such as cylinder blocks. The castings come in on an overhead monorail, index automatically at the blasting station, and then emerge in better shape than has been possible ever before. Complete details of the installation will be available very soon.

### All Steel

True to the predictions made last Fall, all-steel bodies will predominate

on 1937 offerings. While the tool and die costs have been high, the amortization problem has been licked by using the same body for an entire line of cars.

### Prop Shafts

As we see more of the new cars we note that there has been an almost unprecedented activity in universal joint and propeller shaft design. So far almost every car we have seen has a different type of joint or shaft construction.

### Door Handles

Even the small percentage of accidents said to have resulted from contact with sharp-pointed external hardware has been instrumental in producing a change in hardware design on certain cars. Several makes, noted thus far, curve the outer ends of external door handles so that the tip practically touches the door panel.

### Show Place

On occasion the machinery manufacturers have wondered whether it is desirable to add to the cost of modern machinery, the expense of refinements in styling and quality of exterior finish. To put it another way, is it sufficient to build a machine that can produce precision work at lowest possible cost since that is the function of a machine, or is it just as essential to style the

machine and give it eye-appeal. Mr. W. J. Cameron gave the answer, at least to this writer's satisfaction, during his talk on the first Sunday Evening Hour of the 1936-1937 series. Statistics just collected, indicate that over 3,000,000 visitors—present and potential car owners—were guests of the Ford Motor Co. during the last summer season. Three million people were interested in a first hand view of a motor car plant. To make the right impression on laymen and even technical people, the plant layout must be attractive and the machinery must have the modern eye appeal. It's an open secret that Ford has had these ideals in view for many years and the plant certainly reflects this influence.

### One Piece

Now that the technique of stretching metal for one-piece front fenders is a little better known, we learn that another car manufacturer will adopt this feature for 1937 production. As you know, Buick had a huge one-piece fender last year. We can't say much about plans for 1937, but we can assure you that the fender is going to be bigger and better and deeper.

### Tubular Frames

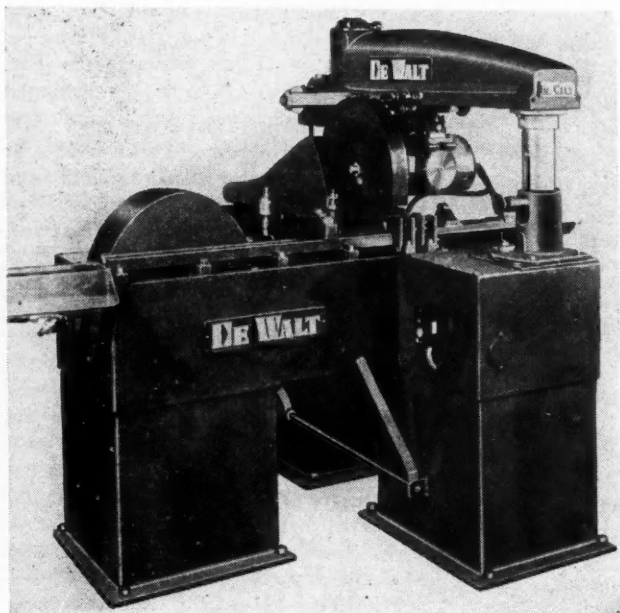
One of the biggest producers will be using formed tubular frames for sedan and coach body seats for 1937. This is said to reduce cost materially and saves about 26 pounds of weight per car. An organization interested in this development tells us that this is a definite trend.—J. G.

**M**ANUFACTURING  
MANAGEMENT  
METALLURGY



# New DEVELOPMENTS

**Automotive Parts, Accessories  
and Production Tools**



**Semi - automatic  
DeWalt metal cut-  
ting machine**

## Drilling and Tapping

**4-Way, 25-Spindle Machine  
Developed by Foote-Burt**

A four-way, 25-spindle, combination drilling and tapping machine to be used for drilling, chamfering and tapping an automotive part was developed recently by the Foote-Burt Co., Cleveland.

The machine has four heads; the upper, left hand and rear heads are mounted on hydraulic feed drilling units. The upper unit has ways 16 in. wide, and the left hand and rear units have ways 10 in. wide. The right hand head is mounted on a lead screw tapping unit with ways 10 in. wide.

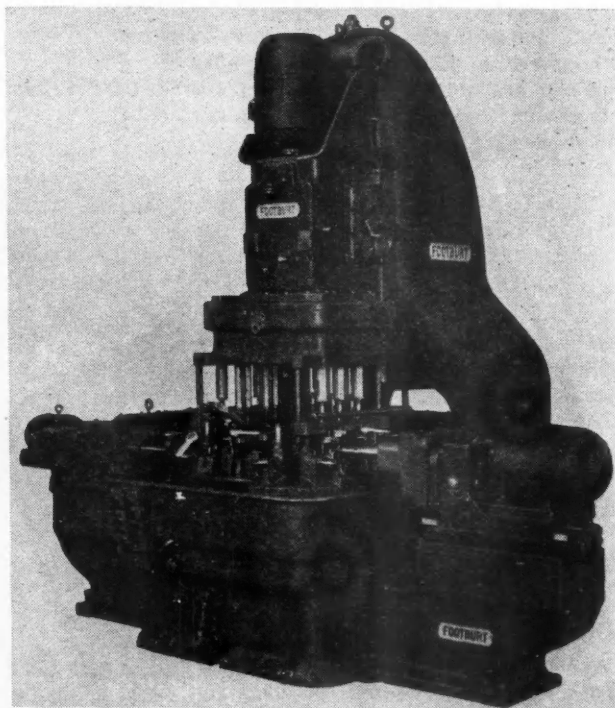
All units are electrically controlled and are started by means of a push button. Each unit goes through its individual cycle and returns to the starting point where it remains until the push button is again operated.

Fixtures for holding the parts being machined are mounted on a four-position, circular, indexing table; three parts being loaded at each station.

The upper head performs three operations on each part: drilling at the second station, boring at the third station

and line reaming at the fourth station. In each cycle of the machine the four heads perform six separate operations on each part.

**Foote-Burt combi-  
nation drilling and  
tapping machine**



## Speed Control

**Device Provides Ready Regulation  
Of Passenger Car Top Speed**

The Saf-T-Lok speed control designed for passenger car use has been announced by the Monarch Governor Co., Detroit. With this device the car owner can lower the top speed at which his car can be operated to any predetermined point.

The control lock is mounted on the instrument panel, while the automatic speed control is installed between the carburetor and the manifold. In one position of the control knob the speed of the car is set at the maximum selected, in the other, the control unit is completely out of operation, permitting full speed.

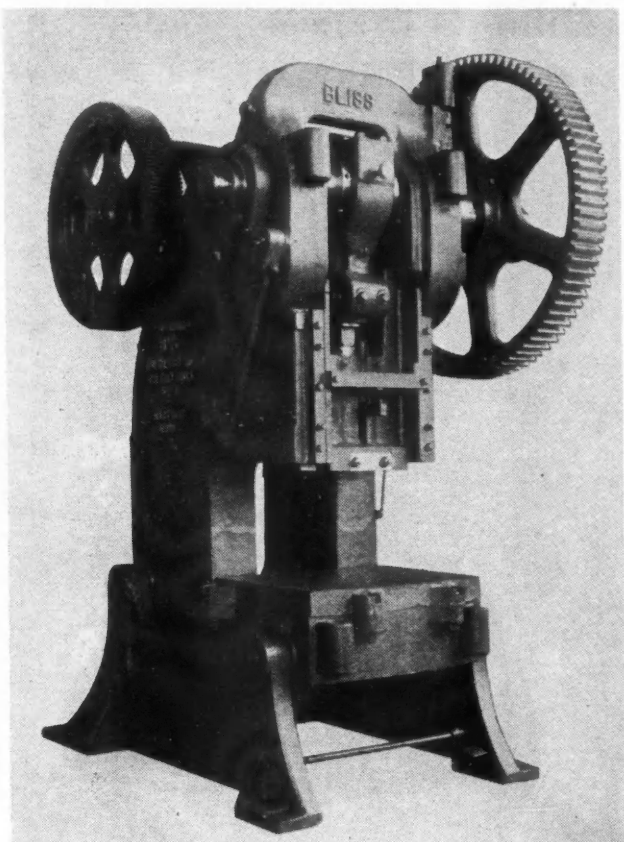
## Metal Cutting

**Semi-Automatic DeWalt Machine  
For Light Section Material**

A semi-automatic metal cutting machine for cutting light section material is now being manufactured by DeWalt Products Corp., Lancaster, Pa.

The machine illustrated was designed primarily for cutting light wall tubing. It is equipped with a 7½-hp. motor which drives a 16-in. hollow ground metal cutting saw blade at 3600 r.p.m.

After material is manually started into the feed jaws it is automatically pushed against a length stop, clamped simultaneously on both sides of the saw



**Inclinable  
Press**

kerf by a four-jaw automatic vise, and cut off. The saw then draws back, the stop lifts, the stock feed mechanism pushes another section of the material into the vise—displacing the stock cut off—and the process is repeated.

It is said that this machine will cut off 6-in. pieces of light wall tubing with a diameter of 2 in., at the rate of 28 cuts per min., averaging a little more than two sec. per cut.

## Milling

### *New Cincinnati Machine Is Larger And Heavier*

A machine for milling small to medium size work pieces run in tool room or job lot quantities is being manufactured by the Cincinnati Milling Machine Co., Cincinnati. The No. 2-MH is of the same general design as the Cincinnati L-type, except that it is larger and heavier throughout. The rectangular overarm is provided with a pilot wheel for adjusting it to position, resulting in more convenient and quicker set-ups.

Many safety features protect both the operator and the machine. All rotating shafts are guarded, hand cranks do not rotate while the power feed is engaged, and the spindle brake stops the cutter immediately when the starting lever is pulled down. For the ma-

chine: lock pins in the cross and vertical feed levers prevent the operator from moving the wrong one, a two-way locking device prevents the spindle reverse lever from being moved acciden-

tally, and a safety gear prevents overloading the machine.

Ranges are 28 in. longitudinal table travel, 10 in. cross travel, and 19 in. and 18 in. vertical travel, respectively, for the plain and universal machines. Fifteen spindle speeds range from 23 to 1200 r.p.m. Twelve feeds are available and the standard longitudinal feed range is  $\frac{3}{4}$  in. to 30 in. per min.

All speed and feed changes are effected through sliding gears on integral 3-key shafts. The entire spindle drive is mounted on anti-friction bearings; the spindle itself being mounted on double rows of anti-friction bearing, front and rear, with a self-compensating rear bearing.

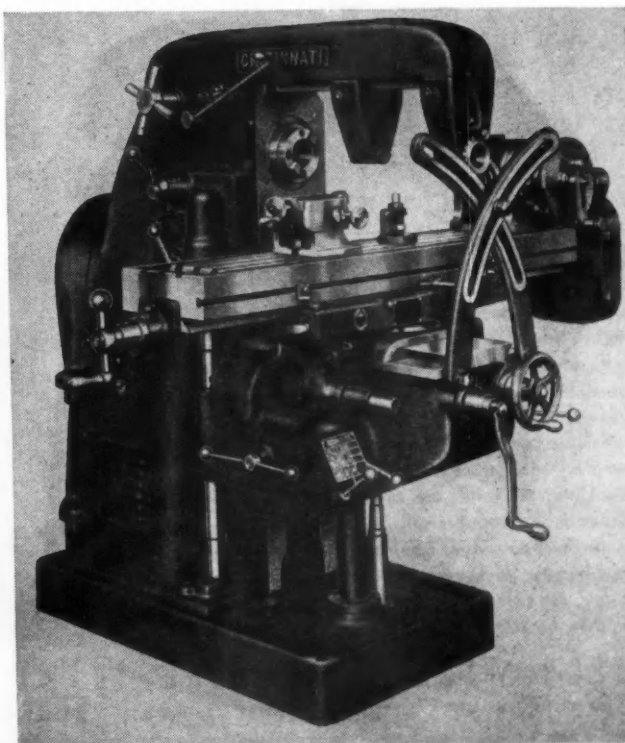
Universal machines are equipped with a 10-in. universal dividing head and a totally inclosed driving mechanism for milling helixes ranging from  $2\frac{1}{2}$  in. to 100 in. lead. If shorter leads are desired, an auxiliary reducing gear bracket can be supplied producing leads of  $\frac{1}{4}$  in. to 100 in.

## Inclinable Press

### *Heavy-Duty, Adjustable Stroke Machine By Bliss*

The E. W. Bliss Co., Brooklyn, N. Y., offers a heavy-duty, adjustable stroke inclinable press. It is an addition to the "Bliss-Consolidated" line, built by the Consolidated Press Div., Hastings, Mich.

*(Turn to next page please)*



**The No. 2-MH  
Cincinnati milling  
machine**

The press is single geared and arranged for direct-connected motor drive. The stroke is adjustable to 2 in., 4 in. and 6 in., with a die space of 19 in. for 2 in. stroke, 18 in. for the 4 in. stroke and 17 in. for the 6 in. stroke. An adjustable eccentric is locked rigidly in place by a patented rolling key device and the adjustment is very convenient to make.

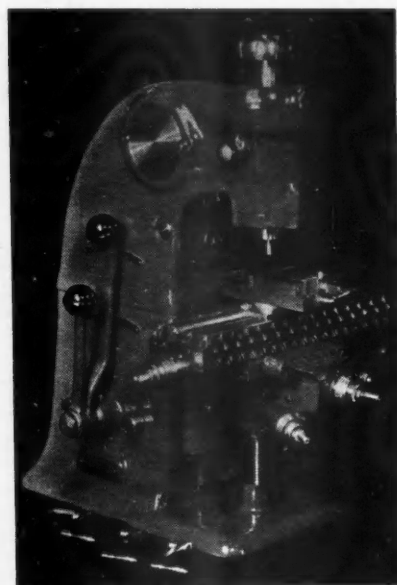
The machine operates at 40 strokes per min. when geared and may be arranged for optional geared and non-geared operation in special cases.

## Small Parts Milling

### Hardinge Precision Machine For Bench Mounting

A precision vertical milling machine with ball bearing spindle construction for high spindle speeds is being manufactured by Hardinge Brothers, Inc., Elmira, N. Y. The machine is for bench mounting and is designed to simplify intricate milling operations on small parts.

Spindle construction embodies pre-



Hardinge milling machine

cision preloaded ball bearings of the double row type. An electrical driving unit is mounted under the bench to provide eight spindle speeds up to 5000 r.p.m.

The table working surface is 12 in. by 3 1/4 in. Micrometer controlled travel of the table is: longitudinal 5 1/2 in.; transverse 3 3/4 in.; vertical 5 1/4 in. The vertical head has a 1/2-in. collet capacity for holding milling cutters and the index heads are 1/2 in. or 3/4 in. collet capacity.



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**MECHANICS UNIVERSAL JOINT DIVISION**  
Borg-Warner Corp. 1301 18th AVE., ROCKFORD, ILLINOIS

## Oil Filtration

### New Medium Claimed To Have High Absorption Properties

Motor Improvements, Inc., has announced production of the N-type Purolator. The efficacy claimed for the Purolator is said to result from the use of a new filtering medium, a vegetable product called Multocell.

Multocell reportedly has such properties of absorption that it continues to retain contamination taken from the oil passing through it to a point where the oil itself will not pass.

The filter consists of an outer casing of steel inside of which is placed the filtering unit, a perforated metal case filled with Multocell. Oil is admitted through an inlet near the bottom of the casing. It passes into the space between the casing and the perforated metal cover of the filter unit and is forced through the filter under engine pressure. It emerges into a central tube running through the filter element through which it flows out into the engine oil stream.

The filter element is sealed into metal flanges near the bottom of the filter





POURING A HEAT OF ELECTRIC FURNACE STEEL AT THE BETHLEHEM PLANT OF BETHLEHEM STEEL COMPANY

## See Bethlehem Advances at the Metal Show

ELECTRIC furnace steels, sheets, strip, wire and the processes that make them, will be incorporated in Bethlehem's exhibit at the National Metal Exposition in Cleveland's Public Auditorium, October 19 to 23. Located at the head of Aisle F, the Bethlehem booth shows concisely the great care and strict control which govern the production of quality steel products.

Here you will see some of the contributions

Bethlehem has made to advances and improvements in the manufacture of steels for the ever-increasing demands of industry. You will see, too, the ways in which Bethlehem has been geared to increased production—the steps which this organization has taken to be able to supply the improved grades and forms of steel required by every branch of modern industry. Outstanding features of the Bethlehem exhibit are described on the next page.



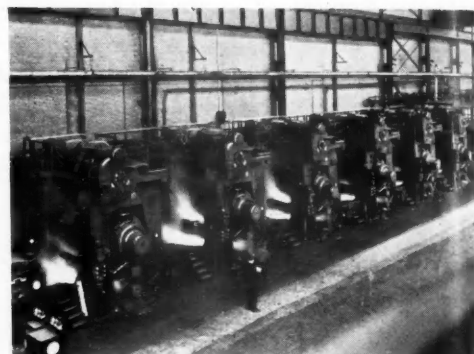
**BETHLEHEM STEEL COMPANY**

# In Bethlehem's Exhibit at the National Metal Exposition

**B**ETHLEHEM Steel Company's services as a producer of steel for virtually every purpose and the contributions made by this organization to further advances in fine steel making will be graphically illustrated in the exhibit of processes and products at the National Metal Exposition. Even a casual inspection of the murals, motion pictures and products which make up the exhibit will reveal the scope of Bethlehem's production facilities and ability to meet the varied demands of industry.

## Continuous Strip-Sheet Mill Operation

Highlight of the exhibit will be the moving panorama of key operations in the production of the flat-rolled steel that is increasingly important to modern manufacturing. Painted in Bethlehem's continuous strip-sheet mill at Lackawanna, the scenes give an excellent idea of the way in which Bethlehem is geared to meet the demands of industry for steel sheets and strip. Synchronized with the panorama of mill operations is a working model of one of the battery of 26 modern box-annealing furnaces at this mill.



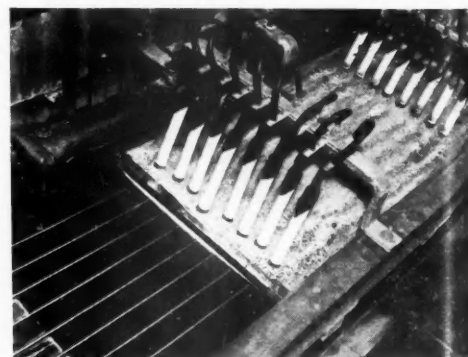
## The Making of Alloy Steel

A new talking picture, "The Making of Alloy Steel," shows in detail the painstaking care and the craftsmanship that go into Bethlehem's production of alloy steel. The picture conducts you step by step through the various manufacturing processes and gives an excellent idea of the strict metallurgical control that fits these steels for the high responsibilities which they carry in airplanes, automobiles and other applications. It shows the manufacture of a quality product on a tonnage basis.



## Wire — and the Bethanizing Process

"Wire," another new talking picture shown in the Bethlehem exhibit, tells the story of wire-making from ore dock to finished products. The bethanizing process, which applies a uniformly thick, highly ductile coating of 99.99 per cent pure zinc to steel wire, is an important and interesting part of this picture. Interesting, too,—and conclusive proof of the high purity of the bethanized coating—is the acid test in which a piece of bethanized wire is immersed in a beaker of sulphuric acid without being affected in the slightest degree.



## Examples of Bethlehem improvements in steel products

The castings, deep-drawn sheets, strip and examples of applications of Bethalon and Bethadur (stainless steels), also parts of the Bethlehem exhibit, show some of the cases in which Bethlehem's continuous research and experiment have borne fruit in the definite improvement of various products.



casing by a heavy cork gasket. This provides a seal between the unfiltered oil outside the element and the filtered oil passing through the outlet pipe as oil enters the filter just above this gasket, under engine pressure, and exerts a downward pressure on the gasket at all times when the engine is in operation.

## Lincoln Zephyr Enters 1937 Market

(Continued from page 489)

Bodies are fitted with the Ford-Lincoln clear-vision ventilation system. Rear-quarter windows of the sedan, which are of the casement type, may be swung open to provide additional air circulation if desired. The luggage space is reached through the rear-deck hatchway. When the deck is lifted the spare tire and its supporting rack are revealed.

The four body types this year include a four-door sedan, a two-door coupe-sedan, a new three-passenger coupe, and a town limousine, which latter was added to the line early last summer. The single seat of the coupe is amply wide for three adults. Each section of the divided seat-back is hinged and can be swung forward to give access to a compartment back of the seat that is large enough to hold a good-sized steamer trunk. In the town limousine the two compartments are separated by a wall with a sliding glass. The driver's compartment is upholstered in leather.

## Much Ado About Much

(Continued from page 484)

and creating dissatisfaction with his lot it is also necessary to stir up an active hatred of the business leaders who, numerically, are a small minority and are physically incapable of withstanding a united assault by the workers. The trouble is that some of these fellows have so ingratiated themselves with their workers that it is difficult to stir the latter to a pitch where they would be willing to disembowel their employers, rape their females and exterminate their offspring. To get the workers in the proper frame of mind long and careful preparation is necessary. The worker must be impressed with the fact that he belongs to an inferior class, that his employer belongs to a superior though predatory class, that the advantages of the latter are purchased with the sweat and distress of the former. This educational program the New Deal has obligingly undertaken.

Let the President deny the Communist label and let us grant the

sincerity of the denial. The fact remains that the New Deal in its open animosity to wealth, its propaganda of exploitation and mass misery and finally its provocation of class antagonism is performing three of the major preliminary tasks of Communism. Little wonder that Mr. Browder said "Communists can join—in—supporting Roosevelt."

## Fuel From Russia

**A**FTER having acquired the retailing organization of the Russian petroleum concern Derop early in 1935, the Benzol Verband of Bochum, the motor

fuel sales organization of the German coal industry, has taken over also the distributing system of the German-Russian naphtha company Derunapht. This deal, through which large storage facilities come into possession of the Benzol Verband, was made with the export union for naphtha and naphtha products Sojustnest-Export in Moscow. Under the terms of the agreement the Russians will withdraw from the retail motor-fuel market in Germany. However, the German market will continue to be supplied with Russian petroleum, the Benzol Verband, whose retailing organization has been strengthened.



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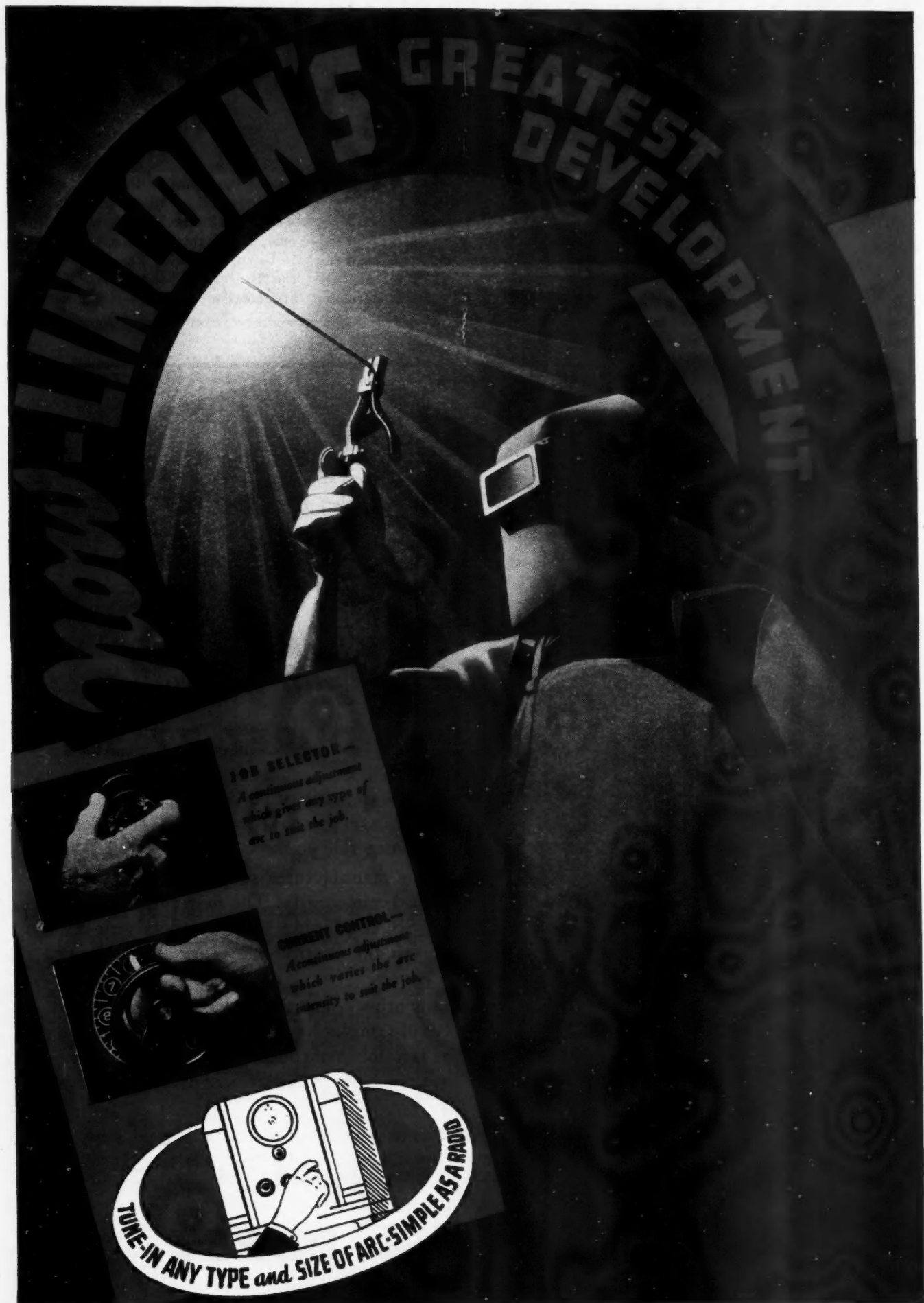
Since then, many other competitive materials were tested, and to date scores of samples have gone through the testing department. The last dozen of them have been so inferior to Durez 77 SB that the testing department boys don't even think it's funny.

For molding materials to meet both old and new demands, always try Durez *first*. General Plastics, Inc., 210 Walck Rd., North Tonawanda, N. Y.

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A continuous adjustment which gives any type of arc to suit the job.

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